

BUILDING YOUR LIFE

*Adventures in Self-discovery
and Self-direction*

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BY

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Preface

How can you make the most of your life? This problem cannot be solved effectively by chance or guesswork. No matter whether you are just starting or are well along on life's journey, it is important to take stock of the values inherent in life and to plan carefully for their realization.

Scientific planning is accepted as necessary in our physical world, and is increasingly demanded in our economic life. Since our personalities are more important than either of these realms in determining our efficiency and happiness, scientific planning would seem to be essential in life building. If we utilized for this purpose information and techniques placed at our disposal by science and human experience, we might work as great transformations in our personalities as have already been wrought in our material environment.

Living is a continuous adventure into the unknown. To make the most of our lives we must become courageous explorers, skillful architects, and master builders. Living then becomes both a science and an art.

Here we shall embark upon an adventure in self-discovery of some of the building materials which we can use in our lives and shall then consider some ways of improving our skill as life builders.

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M. E. BENNETT.

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Part One

Points of Departure

Chapter One

THE PROSPECTUS OF OUR ADVENTURE

Have you ever stood at night on the observation platform of a fast train, engulfed in a darkness pierced by the rays of light from myriad stars, and felt yourself hurtling through space in our vast universe? The sensation is symbolic of what is actually happening to all of us. For we are denizens of a planet which is moving in its orbit a thousand times faster than an express train. And each of us is a microcosm, or little world within that larger world and universe, traveling through time and space together with millions of other life travelers. Moreover, as we journey along we also build our lives.

What sort of life do you wish to build? Have you drawn the plans and developed the necessary building skills?

Who has not felt the thrill in his childhood days of piling block upon block and watching a wondrous structure grow under his hands? If we failed to plan aright and the structure fell, we would start to rebuild it again, perhaps in a different pattern. But not so with our lives. From childhood on we have all been building our lives, but the process is so slow that we seldom can note the growth. Also we cannot tumble the edifice down and start to rebuild it again if it fails to please our fancy. We must always build in the present upon foundations laid in the past, but our human building materials are so plastic that we can profoundly alter our lives by skillful planning and building. The skill for constructing a life that will stand the stress and strain of modern living is a more difficult skill to acquire than that of building a material structure. It is both a science and an art.

The person who drifts along without developing this skill is very much like a certain queer old lady who had a mania for continuously remodeling her house, building on a room here or there with no definite plan in mind. The resulting structure, which still stands in central California as an ugly monument of

passing whims and fancies, is neither beautiful nor useful. Think in comparison of some home you have seen in which the location, building materials, architect's plan, landscaping, interior decorations, and furnishings have all been chosen and developed with a view to harmony, beauty of design, and usefulness of purpose. Can you think of people you have known who could be compared with these two types of houses?

In planning and shaping our lives we must work with the building materials which nature has given us, and it is essential that we develop plans which will utilize these materials in the best possible ways, neither giving them more strain than they can bear, nor using them for types of structures which will never demand the strain for which they are suited. Undue strain may result in a catastrophe—a ruined structure, too little stress in a tremendous waste of human energy and resources. Either may result in a dissatisfied, unhappy life.

Our human building materials are undergoing a continuous process of change and development. Hence one of our tasks as builders becomes that of trying to discover the presence or absence of potential materials, and, to the extent possible, their limits of development. Since our knowledge about these materials must be very incomplete at any one time, and beyond certain limits may expand only with experience, our building plans must be flexible and allow for continuous readjustment as the building site—the environment—changes, and the materials—our personal characteristics—develop. This does not mean that we must leave our lives to chance, but that we must accept change as an essential characteristic of living and allow for it in our planning and building.

The revolution in our physical and social environment wrought by the applications of science has made living a vastly more complex affair. Our understanding of the techniques necessary for successful adjustment in this modern world seems not to have kept pace with the changes in our environment. Although a vast amount of knowledge regarding the human mind and personality and human behavior has been accumulated, the applied sciences in this field have been slower in developing than in the field of the physical sciences. Plenty of pseudo-sciences have appeared, but a sound science of human engineering is only in its infancy today. This situation is due partly to the fact that the gaps in our knowledge about

ourselves are so wide. However, if all that is known were applied in planning and directing our lives, there would, undoubtedly, be as momentous changes wrought in them as have already been effected in our physical environment.

How can we learn more about ourselves?

Have you explored the treasure-house of your personality? Would you like to go on a journey of self-discovery? Science has unlocked the treasure-box of our physical world and has revealed to us undreamed-of riches which are there ready to be appropriated. Machines and scientific processes have provided the possibility of plenty—plenty for every man, woman, and child. Yet poverty, deprivation, or insecurity surrounds us on every side. We have not yet learned how to use these riches to which we have fallen heir.

Likewise science has unlocked the treasure-house of the human personality and has discovered many of its hidden riches. We can now envision a real world of free and happy human beings. Yet frustration, unhappiness, and slavery to unknown masters prevail. In the realm of our personalities, as in our physical world, we do not yet know how to use all the resources which are ours.

Let us prepare for an adventure of discovery and exploration. It will be a journey that no one else has ever taken, for you will explore the treasure-house of your own personality, and there is none other exactly like it.

As with most journeys the going will not always be easy, perhaps not always enjoyable. Together we shall map out the route, but the highways will not always be paved. It may be necessary at times for you to clear away the underbrush of resistance within yourself and to make your own path. You may at times ride choppy seas of emotional protest against exploring hitherto fearsome, but securely barricaded, regions. You may encounter locked doors for which you must find or make the keys.

If, however, you are willing to endure the necessary hardships, you may anticipate many pleasures on the journey. New experiences, new sights and scenes, new and inspiring vistas, new unknown selves. Pleasant surprises may meet you at every turn. New understandings may enhance old

friendships and new interests may open the way for new friendships. Buried treasures may be unearthed.

Like all explorers of new realms, you must expect to encounter dangers. Explorers and scientists constantly face dangers in their undertakings, but those who achieve do not withdraw from the dangers. They prepare to cope with them. The same sort of foresight is required for the dangerous but interesting adventure of living.

We cannot cope with what we do not understand, and we must grapple with both self and the world if we are to live in a purposeful, intelligent way. We shall attempt in this journey to learn more about self. To explore our personalities we need first to get outside ourselves and to turn on the spotlight of impartial, impersonal scrutiny. As in the laboratory when studying other forms of life, we need to observe some aspects of self under a microscope, as it were. It is easy to lose perspective and the correct sense of proportion in such scrutiny. Discovered defects or talents may be magnified beyond their right proportions or undue preoccupation with self may result.

Such results destroy the values of our study and expose us to real danger. We shall protect ourselves by inoculation against the disease of morbid introspection in much the same way that a prospective traveler in foreign lands may have himself inoculated against typhoid or other diseases. When we have established immunity, we shall be ready to turn to our Baedeker of scientific research and human experience. We shall need to study this Baedeker carefully and thoughtfully if we are to realize the joys and values of the journey.

What is our destination? Will the truth shock you? If you really go the whole way, you will never return to where you started! We shall simply press on and on. But that should not startle us, for life is like that. The really important question is whether we eventually direct our own lives instead of being led blindly by chance.

The purpose of our present tour, then, shall be to prepare for the longer journey through life. The guide will ask you many questions. Here are some of them: What are your goals in life? Have you mapped out a route that is likely to lead you to these goals? Have you considered what are the necessary or desirable preparations for this journey? What qualities of personality do you desire in your traveling companions?

Will your personality contribute to the comfort and happiness of your fellow travelers? What personal joys and satisfactions do you hope for on the journey? Are you prepared to endure the necessary hardships? What do you think you can contribute to life? These and many other questions must you consider if you wish to exercise intelligent self-direction in your life and make living something more than purposeless wandering through a maze.

If, perchance, you have already gone some distance on your life journey, you may wish to consider such questions as these: Am I getting the most out of life? Do I need to shift my goals or remodel my personality to make life more worth while?

But now for the inoculation!

Chapter Two

THE INOCULATION

HOW WE THINK

Can you see one of your pet convictions shattered without shedding a tear? Can you stand before your looking glass and note with pleasure the attractive features of your physique without preening yourself? Can you calmly observe that nose which is the wrong shape or length, that mole on your face, or a more obvious disfigurement of some sort, and merely ask yourself without any distressing emotions what you can do about it? And if nothing *can* be done, what of it?

Until you have achieved these skills, you are not fully immune to that morbid introspection to which we shall be exposed on this journey. Perhaps you have already succumbed to the disease. If so, you need the serum treatment for cure instead of prevention.

Let us examine the ways in which we think. A penny for your thoughts, so that I may dissect them. How about starting with my own, you ask? That's a fair enough request. A penny for my thoughts on that hot August afternoon as I drove down the coast highway returning from my vacation? It is difficult to recall them. As I make the attempt a succession of pictures and irrelevant ideas flits hazily through my mind—a winding path through the redwood forest, the ruins of an old mill by a mountain stream, the blazing logs in the fireplace of the cabin, some fragments of a conversation, the recall of an amusing incident, and the thrill of the clear starlight in the quiet forest. The stream of memories is interrupted at times by the sense of physical discomfort due to the heat or by something in the landscape which attracts my attention. A hog-backed formation in the hills near by causes a jump in memory more than twenty-five years back; the dry brown hogback becomes covered with trees and flowers and I see myself with a big basket gathering hepaticas and violets. An old ruined mission

farther on recalls stories of the Spanish padres and the Indians; an ugly little schoolhouse starts a trend of recollections about my first teaching experience, which eventuates in the recall of some untouched work that I had planned to finish during the trip. The unpleasant feeling aroused by this memory is soon dispersed by the thought, "Well, I needed the rest; one shouldn't work in vacation time. I shall probably do it much better when I am back home and can work in my study."

A glance at the speedometer—50 miles—and the pressure of my foot on the accelerator lightens a trifle; a whirring noise for a moment under the right-hand side of the hood, and the uncomfortable thought presents itself that I had forgotten to have the generator examined as I had intended before starting back. This is followed almost at once by the reply, "It's much better to wait until the mechanic who usually cares for the car can attend to it; a strange mechanic along the road is often careless," and several unfortunate experiences of this sort on previous trips are recalled to bolster up my assurance that I had not been merely negligent about the matter. A grove of eucalyptus trees is passed and once more I am back in my college days, thinking of late afternoon walks in the arboretum on the college campus.

Suddenly, however, all reminiscences are rudely banished by the realization that a car coming from the opposite direction is careening across the road directly in my path only a few feet ahead. A steep bank on my right and inability to stop in time by the application of brakes are the only factors in the situation of which I am aware for an instant. A quick turn to the left, together with the application of brakes, brings the car to a stop parallel with the other car and without an inch to spare between them. Luckily no car is coming from the rear and a possible accident is avoided. In a short time I am again engaged in casual observation of the familiar landscape, reverie, and occasional thoughts about a problem which has to be attacked on my return to work.

This attempted description of my thoughts on that afternoon is, of course, fragmentary and the result of both conscious and unconscious choice of incidents and ideas, for as James Harvey Robinson says:

When we are offered a penny for our thoughts, we always find that we have recently had so many things in mind that we can

easily make a selection which will not compromise us too nakedly. On inspection, we shall find that even if we are not downright ashamed of a great part of our spontaneous thinking, it is far too intimate, personal, ignoble, or trivial to permit us to reveal more than a small part of it. I believe this to be true of everyone. We do not, of course, know what goes on in other people's heads. They tell us very little and we tell them very little. . . . We find it hard to believe that other people's thoughts are as silly as our own, but they probably are.*

This serum treatment does not demand that you share all your thoughts with others, but it does require that you look at them yourself, and not be deceived by camouflages which you have built up for yourself as well as for others. Let us examine the kinds of thinking illustrated in the description above to discover some of the values and dangers involved.

When we are not interrupted by some practical issue, or when we are not consciously trying to control and direct our thinking for a specific purpose, we engage in what is called *reverie*. Studies of this reverie, or "free association of ideas," have shown that it is almost invariably centered about one's ego and tends on the whole toward self-magnification and self-justification. It is, undoubtedly, one of the chief indexes of our real character, and exercises a pervading influence over our entire mental life. Because so much of it is silly and worthless does not mean, however, that we should try to eliminate it entirely. Our daydreams are the source of many of our finest aspirations and inspirations. The stories of Newton and the falling apple, Watts lazily watching the steam issue from his mother's kettle, and Galileo observing the swaying lamps in the cathedral are suggestive of how reverie may eventuate in discoveries of profound importance and in the increase of human understanding. But unless these inspirations had been carried beyond the reverie or daydreaming stage and subjected to rigidly controlled experimentation and thinking, we would never have had our steam engines, dynamos, and pendulum clocks which have helped to revolutionize human living. A girl may daydream about her successes as a great musical artist, or a boy about his marvelous achievements as an architect, but, unless these dreams lead to greater effort

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in practice and study, they will mean only momentary pleasure and wasted time.

How do you talk to yourself? Therein lies the key to most of your habits of thinking, attitudes, and achievements. Day-dreaming about fancied accomplishments may become so satisfying that it serves as a substitute for the satisfactions of real achievement, stultifies effort, and blinds one to realities. If carried to an excess, it may cut one off from the real world and cause him to live in a fantastic realm of imagination. The mentally sick individual who thinks himself to be God has substituted the world of his fancies for the world of reality. Continuous brooding over handicaps and deficiencies resulting in lack of self-confidence may also be as disastrous as the self-magnifying sort of reverie, since it may deprive one of courage needed to strive for achievement. In the control of your reveries lie great possibilities for self-improvement and self-direction.

When we feel ourselves accused of error or misapprehension, we indulge in a sort of *defense* thinking. Illustrations of this type of thinking are to be found in the excuses which the writer gave for not doing the intended work during vacation and for not having the generator of the car inspected before starting home. It is derogatory to our ego ideas and therefore unpleasant to have to admit that we have been negligent, thoughtless, or in error about something and we often become very proficient in finding "good reasons" for our mistakes and shortcomings. This tendency applies not only to our conduct, but to our possessions, beliefs, friends, and everything which has value because of its attachment or relation to ourselves. A derogatory implication regarding any of these cherished possessions or beliefs may arouse resentment and undue emotional disturbance.

We justify the purchase of a new car on the grounds of economy, because the old one needs repair, when the real reason may be associated with desire for greater comfort or pleasure, the urge for social approval and esteem, and indirect enhancement of self. On the other hand we may take the sour-grapes attitude toward things which we really desire but for some reason think we cannot have. The young man with a frail or unprepossessing physique may look with disdain upon the athlete or the social lion. The unattractive or un-

popular young woman may assume a superior attitude toward the frivolities of the more popular members of her sex and concentrate on the serious aspects of living as the only things which are worth while. The person secretly fearing lack of ability to achieve some of his ambitions may come to look with similar disdain upon the "greasy grind," and philosophize that it doesn't pay to work so hard, for everything will come out all right in the end.

Another form of *rationalization*, the name attached to this kind of thinking, is that of projecting the cause of a difficulty on some other person or on some object or circumstance beyond our control. We justify failure to receive promotion or raise in pay by contending that the boss has a grudge against us; there was something wrong with the tennis racquet that caused a bad play, or with the golf club when the ball sliced; we may even berate the chair or footstool that we stumble over in the dark.

Or we may assume the Pollyanna attitude, and claim that everything is fine when a bad situation arises, or at least conclude that we should be thankful because it isn't worse. This attitude, as well as the others described, prevents one from facing reality and coming to grips with it, and thus hinders improvement.

How many of our beliefs and opinions around which we shed the halo of our being could stand the scrutiny of cold logic based upon facts? We avoid the unpleasantness of cold logic by excluding all evidence which fails to support our point of view. Uncritically we cling to our own opinions, and unthinkingly we accept the beliefs of our associates. Children tend to belong to the same political parties or subscribe to the same religious creeds as their parents, though this tendency is undoubtedly lessening. We acquire these attitudes and beliefs almost unconsciously from our earliest childhood, and they seem so axiomatic and self-evident that we wonder how anyone can believe anything else. In the same way we acquire our social attitudes and customs from the group in which we live, and consider them so necessarily right and true that to question them seems highly absurd and dangerous.

Which is more important to you, what you believe, or the truth, whatever it may be? Would you rather seek for better reasons for

your opinions, or for better opinions? The true answers to these questions will very largely determine how much truth you will ever discover about yourself or anything else.

Despite the fact that most of us earnestly seek the light of truth to penetrate and solve some of our difficult problems, we all have some cherished beliefs or opinions which we unconsciously try to protect from the glare of too close scrutiny. A good check of the extent to which we attempt to protect a cherished but unverified belief is the degree of emotion aroused by an attack upon its soundness.

When we make *snap judgments*, we resort to the type of thinking which was exemplified when I turned my car sharply across the road without stopping to see whether a car were coming from the rear. We all find it necessary at times to make quick judgments, and we cannot always make them on the basis of all factors concerned. In playing tennis we cannot, before taking a position to receive the ball, wait to see just where and how fast the other person returns it. However, we can familiarize ourselves with the habits and tendencies of opponents and be guided somewhat by this understanding. It is always necessary, nevertheless, to leave leeway for snap judgments based on unexpected plays. This same principle holds true in all activities demanding quick judgment, and the habit of considering all possible factors which time allows helps to improve the quality of these judgments. The practice of forming snap judgments on the basis of partial evidence, when the exigencies of a situation do not demand it, is a common but unjustifiable habit. One serious difficulty with the tendency is that, after we have reached a conclusion, the sanctity of ownership may become attached to it and prevent us from seeing and weighing new evidence which might cause a reversal or change in the judgment.

How may one determine what is truth?

When I awoke about five o'clock this morning, I became aware of an insistent metallic tap, tap, tap somewhere outside near my window. I listened for a time to discover what it was, and decided that it sounded like water dropping from the eaves of the house onto a drainpipe below. It was light enough to discover that the sky was clear and that there was no apparent evidence of rain during the night. Had I been un-

familiar with some of California's evanescent fogs, I might have wondered after excluding other possibilities if at last I was in the presence of some ghostly phenomenon. Since I was not sufficiently curious to investigate, I had to remain content with the unproven hypothesis of deposited moisture from a dissipated fog as the cause of the monotonous sound. When the morning paper was brought in several hours later, its wrinkled outside sheets gave the first visual evidence to support my hypothesis. The actual evidence at hand, including my memories of past fogs, was insufficient, however, to warrant a decisive conclusion.

Many words about a trivial matter, you may say. Agreed! But how many profound convictions regarding improbable truths have resulted from even less evidence and the flight of an uncontrolled imagination? The primitive savage notes the occurrence of a frightening natural phenomenon, such as an earthquake or an eclipse of the sun, occurring simultaneously with the advent of a stranger, assumes that the latter has caused the former, and perhaps kills the stranger. Again he may assume that the earthquake or eclipse is the attempt of a god to punish him for his misdeeds, and he may attempt to propitiate the god in some manner. He may think of all inanimate objects as inhabited by spirits, and ascribe magical powers to them as a consequence. Studies of magic and early experimental science recount how it was believed that certain diseases could be transferred to animals by holding them against the affected parts, or by spitting into their mouths, and that the carrying or wearing of amulets would cure or ward off disease. Recent studies and surveys indicate the wide prevalence in our own times of superstitious beliefs and practices. It would seem that primitive man thought no differently from modern man—he merely lacked the knowledge upon which to base his thinking. The logic of Aristotle and later medieval logicians was as exacting as our own, but the assumptions upon which their reasoning was based were untested and oftentimes false. The important contributions of recent centuries to our thinking have been the development of instruments and techniques for the more accurate observation and recording of phenomena and the verification of findings.

The method used by scientists today in their search for truth includes formulating the problem to be studied, observing

and recording data within the field of the problem, classifying and organizing the data on various bases such as similarities, variations, relationships, etc., generalizing from these classified data to secure tentative hypotheses or theories, and verifying or refuting these generalizations by controlled experiments and the gathering of additional facts.

Equally important are the *attitudes* with which the scientist approaches his task and views his conclusions. He must first of all have a *strong natural curiosity*. This is the basis and fundamental motive of the scientific, truth-seeking spirit. The field of science is as vast as human interest and any one problem confronting the scientist may have its ramifications in many directions. Only as he is led on in a restless search for new facts can he approximate completeness and correctness of the data upon which his conclusions are based. This curiosity, to be helpful, needs to be controlled and directed into significant and relevant channels.

Impartiality and breadth of view are other necessary characteristics. A personal interest in the conclusions drawn or a definite purpose of proving the validity of certain viewpoints or theories is fatal to the scientist, since either encourages the inclusion of favorable and the exclusion of unfavorable data, and tends to create a bias which often prevents observation of unfavorable data. Without breadth of view the observations may be limited to too narrow a field, and the results secured may be comparable to those of the blind men studying the elephant. Since it is impossible for the human mind to encompass all truth, the truth seeker cannot afford to increase the complications of his task by holding preconceived ideas which will shut him off from attainable information. Even with an open mind and the most favorable circumstances, he will miss much that is pertinent to his problem.

Having an open mind, however, does not preclude an attitude of *doubt and skepticism* as a necessary antidote for eager theorizing. This doubt should lead to an active striving after the truth rather than to the enervating conclusion that the truth will always elude one's grasp.

A vision of the magnitude of the field of knowledge to be explored set off against possible achievements in any one lifetime is fairly certain to develop an attitude of *humility* in the scientist toward his own meager though perhaps highly

significant results. A realization of his own shortcomings and inevitable mistakes and errors tends to make him tolerant of the conclusions of others even though they may conflict with his own.

Fearlessness before the facts and loyalty to them combine to form the keystone in the arch of scientific thinking. The goal of the true scientist is truth, not the bolstering up of an opinion. It matters not whether the results of his experimentation and thinking strengthen or discredit his previous work, or accrue to his personal welfare or disadvantage. The all-important questions are: *What are the facts? What do they mean?*

Of course, no scientist today looks upon his conclusions as final; he realizes that new findings tomorrow may either augment or overthrow the theories to which he is loyal today. Science involves a growing dynamic body of truth and demands an active, open mind, never content with conclusions save as the basis for further truth seeking and for the tentative solution of human problems.

How may we apply the scientific method of thinking in our everyday living?

We cannot all be scientists in the sense of adding to the store of scientific truth, but we can all become human engineers, attempting to apply scientific truth in our specific work and in our daily living, and utilizing the methods and attitudes of sound thinking in our own thought processes. For this purpose the attitudes of the scientist are perhaps more important for us to master than his specialized techniques, though it is essential to understand the latter sufficiently well to know whom and what to trust. Let us consider ways in which we may become more scientific in our thinking.

One way is to improve and extend our observations. Common human experience and the nature of evidence submitted in law courts as well as experimental data attest to the widespread inaccuracy and indefiniteness of much of our observation. When we are aware of the difficulties of accurate and comprehensive observation, we can improve our power of observation, as to both accuracy and range, by training and self-checking. Dimnet reports in his book, *The Art of Thinking*, how Cazin, the son of a famous French painter, and himself an artist of note, was taken by his father on professional rambles through

the country. He describes how every now and then the two men would stop to observe for a few minutes, and then, turning their backs on the landscape, test each other's recollection of the values registered during this brief interval. The older man's extraordinary capacity for observing and remembering would often enable him to recall clearly, after months, half-tints indistinguishable to the average vision. Practice in the careful, critical observation of the environment, associates, and events will soon reveal a multitude of things which we have unknowingly distorted or failed to notice. The same training applied to study or leisure-time reading will yield similar results.

Of course, we cannot and should not observe everything. We need to select and define our fields of observation like the scientist, and we do this through our developing interests. Wide interests and a rich store of accurate, well-organized information are foundations for sound, useful thinking. We must also expect and allow for a certain amount of error in our observation.

We need to improve our methods of generalizing in order to become more scientific in our thinking. There are three main steps in this process:

First, there is *analysis* which consists of breaking up a situation into its essential parts. For any particular problem this would involve determining what factors have a bearing on it and noting facts relative to each of these factors. For example, if you were confronted with the problem of choosing a life work, analysis would lead you to isolate for study such factors as your interests and abilities and the demands of a particular occupation and all possible facts relative to each.

The next step, *synthesis*, is to fit these isolated factors or facts into their logical relationships. Here differences, similarities, and relationships are noted and those elements which seem to belong together are so grouped. The elements are then ready to be studied with a view to drawing any warranted conclusions. A danger at this step is that of bringing together factors which are related in time, place, or some other manner, but which have no cause-and-effect relationship.

At this point scientific facts, if available, should be utilized to guide the thinking process. One might be attracted by the lures of a "character analyst" and try to choose a life work

on the basis of his analysis of one's potentialities derived from observation of one's features, coloring, etc. A limited observation of blondes and brunets, or of people with convex and concave features might conceivably cause one to place some faith in the analyst's advice. But an investigation of careful studies of the claims of analysts as to the relationships between physical and mental traits would show that the results have been quite uniformly negative and have failed to substantiate these claims. The sound thinker would accept the results of these studies in preference to his own limited and probably inaccurate observations or the claims of the character analyst, and would seek further for the information he desired.

The third step is to reach *tentative conclusions*, or to *generalize*, on the basis of the synthesized information. For this step one needs to marshal the forces of memory, controlled association, imagination, and critical judgment. One needs all available facts bearing on the problem in hand and an understanding of how to use them effectively. It would be impossible within the limits of this chapter to consider the laws and principles of logic which are to thinking what grammar is to speaking and writing. We are all generalizing much of the time, but often imperfectly and crudely. One of the most important results of all education should be the increased ability to generalize correctly and to recognize sound and unsound generalizations.

There are three main ways of reaching generalizations which have been called "patterns of thought."* The first one, usually called *induction*, involves drawing conclusions from numerous observations. For example, one might conclude after handling different metals and noting their weight that metals are heavy. A second pattern of thought involves the *explanation* of a particular phenomenon on the basis of a previously determined rule. For example, starting with the rule that metals are heavy, you handle a bar of iron, and, noting its weight, you explain that iron is heavy because it is a metal. In the third pattern which we call *deduction*, we infer certain facts on the basis of a previously determined rule. For example, starting again with the rule that metals are heavy, you look at a bar of the metal aluminum and conclude that it is heavy! The next desirable step would, of course, be to verify the

* The examples used here are adapted from Joseph Jastrow, *Effective Thinking*, Simon & Schuster, Inc., New York, 1931, Chap. II.

conclusion by lifting or weighing the bar and comparing its weight with one the same size made of iron.

This illustration is perhaps sufficient to point out the danger of fallacy in making generalizations. The incorrect conclusion reached by the third method as used above does not invalidate the method. It illustrates the need for sufficient information as the raw material for thought, and the need for *verification* of conclusions. It also shows how an inadequate assumption at the start may vitiate the whole thought process.

To become scientific in our thinking, we must verify the products of our thought. The need for verification is illustrated in the erroneous conclusion about aluminum. The pragmatic test should be applied to every result of thought: Does it work? Does it check with experience? Is it in harmony with tested truth?

Many of our judgments and choices must of necessity be tentative and unproven, at least for a time, because of the limits of our knowledge. We cannot wait for the results of scientific research in some fields of human activity where choice and action are necessary for living. It may be that science will never penetrate into some realms of life. But where it does, the intelligent person will utilize tested truth in his thinking, and will reconstruct his judgments and opinions in the light of new scientific truths as they are discovered.

What attitudes aid sound and objective thinking?

Alertness and active curiosity. The intellectually complacent person lets much that is vital in life pass by him without notice. Sound thinking demands a rich background of interests and information upon which to draw, and this background can be developed and maintained only by the person who is alert and curious about life, who is constantly reaching out for new truths and new viewpoints and using them in reconstructing his thoughts. The most desirable curiosity is not the random, unselected sort displayed by the young child, nor the idle curiosity of the dreamer (though these have their values); neither is it the curiosity of the gossip or the sensation-monger. It is rather selective, and controlled and directed by standards of value and perspectives on life which are themselves in a state of wholesome flux and growth.

Impersonal objectivity. The sound thinker must always be able to get outside of himself and look at his mental processes and opinions as objectively as he could those of another person. A possessive love for the offspring of one's mind is as fatal to the thinker as to the scientist. It stultifies one's thinking as an unwise parent love hampers the growth of children. Both thoughts and children need loving care, but not of the sort which prevents them from trying out their powers in the vast unknown when they are ready to explore. Our thoughts, like fledglings, sometimes need to be forced out of the nest and taught to fly, and if they do not come back—well, the nest can be filled with a new brood.

The willingness to suspend judgment. Many individuals feel the need for reaching definite conclusions on all problems or questions confronting them. They must and usually do have definite opinions on all matters which come within the scope of their minds. Each thought is caught and imprisoned in a pigeonhole. Craving for certainty and for the dogmatic statement of truth is particularly characteristic of children. This common desire for definiteness is antagonistic to scientific thinking, since the latter demands not only the withholding of judgment until sufficient data bearing on the problem can be secured, but also time for deliberation. Some prefer the peace and satisfaction of unproven convictions to the uncertainty and doubt which must at times confront the truth seeker.

Voltaire once wrote, "None but the charlatan is certain—doubt is not agreeable, but a positive assurance is ridiculous." We must have a fair degree of assurance about many things to live effectively, but it is both wholesome and stimulating to keep a realm in our thinking in which ready assurance is not needed, where we may say with Protagoras, the Greek sophist, "Let us assert nothing, let us deny nothing, let us wait."

What are some of the hindrances to effective thinking?

Even with a sincere desire to acquire the scientific attitude and to think soundly, there are many obstacles to be overcome in doing so. *Convictions, prejudices, and settled habits of thinking* are distinctly antagonistic to the scientific spirit. No new truth can enter a mind filled with settled convictions and beliefs. To be scientific it is necessary to form the habit of changing

one's viewpoint in the light of new evidence. Attitudes become habits, and one of these habitual attitudes which acts as a great hindrance to an open mind is that of emphasizing the importance of old attitudes and ways and distrusting the new because it is new.

Most of our convictions, prejudices, likes, and dislikes grow out of our environmental influences such as the attitudes and beliefs of parents and associates, much as we develop habits of speaking and eating. They develop so naturally and become so integral a part of us that we tend to react antagonistically to anything which appears to conflict with them. We may even accept an opposing viewpoint intellectually but retain the emotional tone of the prejudice. Our numerous racial and social prejudices are acquired in the same way that we acquire other likes and dislikes. We often cling to them as tenaciously and intolerantly as did the Hindu worshiper of a mythological god. This worshiper is reputed to have attached bells to his ears so that when another god was praised he might, by vigorously shaking his head, ring the bells to avoid hearing the words.

Self-centeredness is another deterrent to a scientific attitude. A mind focused on self cannot reach out and encompass the external world of objective reality which must furnish the materials for sound thinking. The tendency of the self-centered mind is to spin its web of thought out of the products of its imagination. This mind tends to occupy itself with what is emotionally satisfying rather than with what is vital and significant. The unusual, sensational, or emotionally exciting has a strong appeal, and wishful thinking of the sort which results in personally pleasing conclusions tends to predominate. This latter sort of thinking has been called "thobbing" by Henshaw Ward who coined the word out of the first two letters of "think" and the first letters of "opinion" and "belief." We "thob" he says when we think out the opinion that pleases us and then believe it. We are all prone to do some of this wishful thinking or rationalizing, but the person who is essentially self-centered becomes an easier prey to it than the more outward-looking person. Just judgment of either self or others is impossible of attainment for the self-centered person. All sorts of undesirable motives may be imputed to the actions of others, while one's own questionable actions may be explained as necessary or even desirable.

The power of suggestion and the habit of imitation limit our possibilities of thinking objectively. Traditions, customs, conventions, fads, and fashions mold our minds and determine our ways of thinking and doing from the earliest years in so many subtle ways that we become totally unaware of their influence. We tend to accept them unquestioningly and uncritically and often become as enslaved to them as was the galley slave chained to his boat and his oar. The instinctive desire to conform to the group and to be accepted by the group often reinforces them so much that the questioning of their rightness or value is looked upon as sacrilege or a crime.

Social habits are as necessary as personal habits and not inherently bad. They form as it were the cement of society, and represent the crystallized experience of the human race in learning to live together. Like good personal habits they may save time and energy for attacking new problems and act as a liberating instead of an enslaving influence. But they become a deterrent to progress when they prevent freedom of thinking, or serve as a substitute for thinking about new and possibly better ways of adjusting to changed conditions of living. Another danger to sound thinking lies in the multitude of indirect suggestions which assail us from every side through advertisements and disguised propaganda and help to mold our attitudes and thinking without our awareness of what is happening.

In evaluating the "cake of custom" which impresses its mold on every civilization, one may hold that since an idea is old, its validity should be questioned or that the age of an idea represents its survival value through the test of experience. A middle ground might involve the attitude that the old is not useless because it is old nor the new useful because it is new.

Superstition which has its roots deep in the past of the human race is the antithesis of scientific thinking. It still exercises a compelling influence over many minds, and the ignorant or untrained are not its only victims. Surveys of the prevalence of superstitious beliefs and practices among college-trained people show some interesting results. One such survey reveals the fact that 82 per cent of these people had at some time believed or practiced certain superstitions and that 53 per cent still adhered to some. Many who claim not to practice them have confessed to an uncomfortable

feeling when a black cat chances across their path, or when they spill salt, walk under a ladder, or meet with some of their special taboos. A list of common superstitions would run into the thousands, and they are the source of many practices which are useless and sometimes even harmful.

The appeal and acceptance of systems and "isms" also prevent clear thinking. Ready-made systems of thought in the form of cults which give the individual formulas to apply in his living and obviate the necessity of thinking make a strong appeal to the timid or fearful individual who lacks courage to face rough and uncharted seas which the independent thinker must ride. A mere glimpse of the dynamic, swiftly changing world revealed to us by science is enough to convince the open-minded person of the futility and deceptiveness of a closed system of thought which does not allow for reconstruction with growth and new experience. Anchorage in the peaceful, sheltered harbor of such a system or "ism" may be temporarily pleasant, but it deprives one of the joy and challenge of adventure, and if perchance one drifts away from the mooring, there is neither pilot nor captain to guide or direct.

Another important hindrance to constructive thinking is *the lack of purpose, perspective, and controlled imagination*. To think constructively it is essential to have clearly defined problems. One cannot think profitably about tax reforms, crime, or any other general topic without formulating definite problems which will give purpose and direction to the thinking. Discussion groups often err in this matter and fail to arrive anywhere because they never had a starting point or a destination.

Trying to think about a problem without perspective is like groping blindly in a maze. Any social or individual problem has its roots in the past and a history of development which is of the utmost significance in understanding its present status. Only by discovering this trend of development can one clearly visualize and grapple with a problem. The next requisite is an imagination which can project ahead of the present status and vision future or unknown possibilities. The greatest pitfall here is an uncontrolled or fantastic imagination. The scientist in his carefully controlled researches must often take vast leaps in his imagination, but he must keep these leaps under the most rigid control. Even the creative thinker or artist cannot allow his imagination free play, but must keep it in

harmony with the canons of his art. The freer the play that can be given to the imagination kept within the bounds of control, the finer the product of the thinking may be. This aspect of thinking is both a science and an art.

What is the need for effective thinking?

Scientific research and its application to living have remodeled our western civilization. This new structure with its machine processes, its new methods of transportation and communication, its vastly increased complexity, and its rapidity of change has created problems of living which demand a different technique of thinking from that which served the needs of earlier generations. Living within this new civilization calls for the same type of thinking as that which brought it into being if it is to be controlled in the interests of human life. Scientific thinking has given man untold agencies for his advancement or for his enslavement and destruction. Whether this new power becomes an agency for progress or for retrogression depends upon the thinking methods which are used in solving the problems it creates. In our own thinking we carry a key to the solution of many of our own problems, and thereby a key to much of our freedom and happiness.

PERSONAL INVENTORY

How well inoculated are you with the scientific method of thinking? Perhaps you can answer this question by checking yourself against the statements in each column below. Try to determine in which list you can identify more of your usual attitudes and methods of thinking. How many of those which you identify in column 1 do you wish to eliminate? The recognition of this desire is the first step. You will have the opportunity to act on the desire when we start on the journey.

Column 1

SUBJECTIVE ATTITUDES AND METHODS

1. I like to find arguments to bolster up my opinions.
2. I have some opinions and beliefs which I do not wish to question or change.
3. I dislike changing my mind about anything when once I have made a decision.

Column 2

OBJECTIVE ATTITUDES AND METHODS

1. I have a strong curiosity to find new facts about life.
2. I like to form new opinions based on new information regardless of whether they clash with older ones.
3. I am skeptical about new theories encountered until I know what evidence supports them.

Column 1.—(Continued)

4. I dislike being uncertain as to what I think or believe about anything.
5. I am more interested in the products of my imagination than in cold scientific facts.
6. I am likely to make snap judgments about most new problems without studying them systematically.
7. I prefer to live by my beliefs than to be guided by scientific facts where the two conflict.
8. I am more concerned about how I feel than what I think.

Column 2.—(Continued)

4. I am tolerant of others' opinions which conflict with mine.
5. I do not mind having an opinion of mine discredited by facts I had not known about when I formed the opinion.
6. I am willing to accept facts which are disadvantageous to me personally.
7. I am not easily affected by propaganda or advertisements.
8. I am more interested in truth than in my beliefs or feelings.

Chapter Three

THE TRAVELERS' GUILD

REQUIREMENTS FOR SELF-DISCOVERY AND SELF-DIRECTION

What will be your attitude toward your discoveries about self?

Those who have studied the human eye tell us that no absolutely perfect one has ever been found. Yet most of us are either unconscious of the imperfections of that part of our physical mechanism or compensate for them fairly well by the use of correcting lenses. A problem for the eye specialist is to determine what is a normal functioning eye rather than what is a perfect one. A similar problem confronts the student of the human personality. We cannot expect to find perfection there. We shall, if we search, find many imperfections. With our personalities, as with our eyes, it is important that we formulate a standard of normal functioning as a criterion against which to check ourselves, rather than to set up an unattainable goal of perfection. Where there is no lack of normal development or functioning, it is usually desirable to let well enough alone and not tinker too much with the mechanism just to see how it runs.

With both our eyes and our personalities, however, certain functions may not develop at all or may develop in an abnormal manner because of the lack of needed training or because of the wrong training. While we may succeed in compensating for these conditions in a fairly satisfactory manner, they are likely to impose handicaps which are entirely unnecessary and which could, with rightly directed effort, be overcome. The cumulative effects of a minor handicap may, over a period of years, result in a major maladjustment of some sort.

There is no logical reason why we should be more disturbed over a functional deviation in our personality than in our vision. The fact that we oftentimes are humiliated by these deviations is probably due to social disapproval or the ridicule so often directed toward the individual who stands out as different from the crowd. This attitude is a manifestation of the

molding action of the group as well as ignorance of the causes of personality deviations which are often the result of conditions imposed by the group. The quaint old adage, that "All the world is queer but thee and me, dear, and sometimes I think thee is a little queer," needs restating in the light of our newer knowledge about our personalities. *Everyone, including you and me, is a little queer*, would more accurately express the truth of the situation.

This realization should not cause us to glory in our queer-nesses. It should merely prevent the recognition of undesirable idiosyncrasies from being too devastating. Since they are, undoubtedly, the causes of much of our inefficiency and unhappiness, the sensible attitude should be that of recognizing and modifying them. This will be one goal of our journey.

Other goals will be those of discovering our strong points which we shall wish to recognize and cultivate without conceit or undue pride, and of detecting weaknesses which we shall wish to try to overcome or make the best of. We all have a basic urge to be superior and we strive to satisfy that urge. This drive may help to explain why some people make such Herculean efforts to overcome some weakness or handicap and by so doing turn a liability into an asset. In some personalities it would seem that the stone which the builders rejected had literally become the corner stone of the temple.

As we explore our personalities and note the life-building materials which are in the process of preparation and use, it will be well for us to consider whether our efforts are more wisely directed if we locate and choose the stronger materials for erecting the framework of our lives instead of devoting too much effort to reenforcing or camouflaging the weaker or more imperfect materials. As we plan and construct our lives, it is often surprising how a fragile or seemingly defective material will eventually fit into the structure and even enhance its beauty or usefulness.

Are we ready then to initiate our journey with eager curiosity and with an attitude of healthy objectivity toward whatever we find?

Before we start we should consider another matter. You may not always wish to follow the guide on some of the side trips, and ultimately you will want to dispense with his services. Hence

we shall consider some skills and understandings necessary for self-direction.

What are some essential techniques and prerequisites for intelligent self-direction?

An adequate knowledge of self. In learning to drive a car or fly an airplane, it is not necessary to possess as much information about the machine as would be needed by a mechanic who repairs it. However, it is highly desirable and very convenient at times to know enough about the mechanism and how it runs to detect danger signals and have defects attended to before they become serious. Without some understanding, also, of the effects of different driving or flying techniques on the machine, it is not possible to operate it intelligently with the least wear and the highest efficiency. Likewise with our human machines we need to know enough about how they work to know when they need repairs by experts, and what we ourselves can do to keep them operating at their best efficiency without needless wear and tear. As with a car or airplane we also need to know where we want to go and how to get there if we expect to arrive at a particular destination.

Intelligent direction of a life must be based upon understanding of the materials to be worked with—native capacities, developed interests and abilities, and the motives or drives which impel one to action. Why are you bored with one situation, intensely interested in another, fearful or anxious in another? Why do you do one task well and another poorly? Why become angry at one thing and pleased at another? All our reactions are clues which we should learn to interpret if we are to understand ourselves. Of course, we do not wish to bring ourselves to the plight of the centipede that, in the oft-quoted ditty, when asked which leg comes after which "lay distracted in the ditch uncertain how to run!" But we cannot trust to instinct in our living as does the centipede.

Understanding of how to develop our capacities and control our behavior. We cannot determine our own capacities. Fate does that for us and places certain threads, as it were, in our loom of life. We can weave whatever pattern we wish that the threads allow and are to this extent the masters of our fates. There are principles and methods of weaving, however, that we must learn, if we wish to avoid tangling up the threads. Clear think-

ing, emotional control and development, habit formation, effective learning, and the power of continuous adjustment are a few of the many techniques which we need to master.

Understanding of the nature of the social environment and the ability to get along well with others. We are social beings and can neither exist nor grow in our early years nor maintain normality in later years outside of a social milieu. Without the ability to live a mutually shared social existence we can soon wreck our personalities. On the other hand there is the danger in our industrialized civilization of becoming mere cogs in the machinery and of losing the opportunity to develop our best talents and be ourselves in the best sense of the word. To steer our lives between these two dangers calls for much knowledge and skill.

The person who does not keep himself closely in touch with and adjusted to the trends of economic and social change in his environment is likely some day to find himself without a means of livelihood. New industrial processes may have eliminated his work, or the demand for his services may have ceased.

Understanding, evaluation, and utilization of the social heritage. To the extent that we can or do appropriate and use it, we may all become heirs to the richest inheritance that may fall to the lot of any man—the cumulated experience of the human race. Without it we would all start as the lowest savages and progress but little, if any, beyond that stage during the relatively brief span of our individual lives. It is the foundation upon which each generation builds and to which each adds its big or little share. Without it man would be like a mole burrowing in the earth; with it his vision encompasses time and space too vast to imprison in words. It gives the perspective without which no life can be directed intelligently. On our journey we shall map out plans for appropriating this inheritance which is ready for him who will grasp it.

Life objectives. No self-direction is possible without directive points ahead toward which to strive. True, the goals may shift from time to time as we reach new points on life's journey and gain new perspectives. But the important thing is to have objectives which beckon us on and which are not so far away as to discourage us and perhaps cause us to turn back.

Standards of value for choosing worth-while experiences. Every experience in life plays its part, small or large, in our develop-

ment. In early childhood the environment is so circumscribed that our choices of experiences are fairly limited, but in adolescent and adult years the sphere of possible choice widens until the variety oftentimes becomes bewildering. It is a rather awesome thought that, no matter how free we may consider ourselves to be in choosing new experiences, our actual choice at any time will have been determined by previous choices and experiences. This fact would seem to make us slaves to our past, but the way to freedom and self-direction lies in our ability to analyze our past experience, to gain vicarious experience through the lives of others past and present, and through the integration and interpretation of all these experiences to build up standards of choice which may change the trend of our lives.

The problem approach to life adjustments. The word "problem" as used here does not imply a necessary difficulty or maladjustment. The Greek source means literally "something thrown forward," and we might define a problem approach as the anticipation of imminent or future adjustments for the purpose of studying them and determining the most desirable types of adjustments as opposed to waiting till each new experience is upon us and we are faced with the necessity of reacting without thought or planning.

No one is ever without problems in this world, either in the form of anticipated new adjustments, present maladjustments, or both. We grow by tackling new problems and solving them, and the person who has none is in a dormant stage. Having problems, however, does not necessarily imply being maladjusted or unhappy. It is simply a characteristic of life which is a continuous process of *becoming* rather than a static state of *being*.

We shall consider numerous life problems which are met by the majority of people. In considering these problems it is suggested that the following questions be kept in mind and used as guides in studying each:

1. What is the specific problem and what is its probable bearing on my life?
2. What factors are involved in this problem and what is the relative importance of each?
3. What facts do I need to solve this problem?
4. Where or how can I secure the needed facts?

5. To what extent must I utilize experience and best judgments in the absence of tested facts?
6. Who can help me most in thinking about this problem?
7. How can I check the effectiveness of my solution of the problem?

PERSONAL INVENTORY

To what extent have you developed desirable self-dependence? Just by way of answering this question you may be interested in trying out the following experiment: Take a sheet of blank paper and number down the left hand side from 1 to 14. Draw in three columns to the right of the numbers and head these columns, "Usually," "Sometimes," and "Rarely." Read over the statements below carefully and place a check after each number on your paper in the column which best describes your usual conduct. Consider your reactions during the past few months.

When you have finished, check your responses against the scoring key on page 323. Draw a circle around the number of each statement for which your response differs from the key. Study yourself with reference to the statements thus marked to try to determine:

Possible causes of the attitudes or behavior.

Ways in which you think you can improve them.

1. I am fearful of a new situation or adjustment.
2. I do not object to reasonable control or direction by others.
3. I like to give evidence of independence of authority.
4. I like to tackle a new problem, analyze it, get pertinent facts, and work out a tentative solution myself.
5. For a very important or difficult problem I prefer to consult a qualified person before making a final judgment.
6. I prefer to have others make decisions for me.
7. I am willing to assume responsibility for the consequences of my decisions.
8. I put off unpleasant tasks as long as possible.
9. I find alibis for not doing what I do not wish to do.
10. I am very much elated over successes.
11. I am very much depressed over mistakes.
12. I object to doing things at variance with what my friends do.
13. I am willing to be guided in my conduct by the standards accepted by the crowd I go with.
14. I have my own tentative standards of what is right or wrong, good or bad.

Part Two

Our Baedeker

Chapter Four

THE CRYSTAL MAZE

SEEING OURSELVES

Have you ever entered a crystal maze and caught the myriad reflections of yourself thrown back from every direction? If so, did you remain long enough to lose your sense of identity and wonder which was you and which your reflection?

As a matter of fact each of us has such a maze in his own personality and our journey of exploration will start in that crystal maze.

How well do you know yourself? Enter the maze and look at your innumerable reflections. Why do you look behind you with surprise? There is no one else there. But the images are all different, I hear you exclaim. True enough, but look at one. Isn't that a picture of yourself as a member of your family? Here is another picture of yourself in your work; and there are others which show you as you are in your various social and recreational groups. Straight in front of you is a picture of yourself as you seem when you are alone or looking in a mirror, and far ahead in the distance is one that looks quite different from all the others. Are you bewildered?

If you attempt to analyze these varied images of yourself in different groups, you will probably discover that the differences are due not only to your own independent ideas of how you look and act and feel in each group, but also to your imagination of what thoughts and attitudes the other members of the group have with regard to you. This latter picture has been called by Charles Horton Cooley the looking-glass self:

Each to each a looking-glass
Reflects the other that doth pass.

Cooley says with reference to this looking-glass self:

As we see our face, figure, and dress in the glass, and are interested in them because they are ours, and pleased or otherwise with them

according as they do or do not answer to what we should like them to be; so in imagination we perceive in another's mind some thought of our appearance, manners, aims, deeds, character, friends, and so on, and are variously affected by it.

A self-idea of this sort seems to have three principal elements: the imagination of our appearance to the other person, the imagination of his judgment of that appearance, and some sort of self-feeling such as pride or mortification. . . . The thing that moves us to pride or shame is not the mere mechanical reflection of ourselves, but an imputed sentiment, the imagined effect of this reflection upon another's mind.*

Any attempt to visualize one's self gives evidence of how elusive, complicated, and varied it is in its development and manifestations; also, how important external relationships are in the determination of its trends and expressions. Scientific research has given us much valuable information about ourselves, and is continuously shedding more light on why we think, feel, and act as we do in the varying situations in life, and how we are growing and becoming new selves from year to year. If we are to play active and intelligent parts in helping to determine what those selves are to be in the future, we must understand them in the present in their various aspects and how these aspects work together to make us what we are at any time. We must also understand what factors or influences are operative in the process.

Each step in the process of building a material structure is directly or indirectly determined by the architect's plan. Likewise our human personalities are continuously being predetermined in many respects by the pictures which we as architects, as well as builders, have of ourselves. There are the pictures of what we think we *are* at any time; the pictures of what we *think* others think we are—the looking-glass selves; and then the pictures of what we think we *may be* in the future. Each of these pictures is affecting the developing plan and the growing personality in significant ways. It is as important that these three sets of pictures fit into each other harmoniously as that the different stories of a building fit together. Also it is as important that they be accurate and correctly proportioned as that the architect's plan of the building be drawn to scale.

* Reprinted from *Human Nature and the Social Order*, by permission of Charles Scribner's Sons, New York.

Here is one of the most important and difficult problems faced by every human being.

O, wad some Power the giftie gie us
To see oursel's as ithers see us!
It wad frae monie a blunder free us,
An' foolish notion.

So often the looking-glass selves that we see mirrored in the looks and actions of others are distorted in some way, as though we were looking in a concave or convex mirror. And often as not the concave or convex mirror effect may be the result of distortions in our own pictures of ourselves which are serving as lenses through which we observe our effects on others.

Robert and Alice, who are brother and sister, exemplify the two extremes of distortion described above. Robert was idolized by adoring parents before Alice was born. Home conditions were less desirable when Alice came and she never received such attention as was showered upon Robert. Also Robert teased and dominated her in ways which tended to expand his already unduly enlarged pictures of self developed as a result of the early adulation of his parents and other relatives. Alice was often humiliated and chagrined by the teasing and the unfavorable comparisons of her achievements with those of the older Robert, and failed to develop confidence in her ability to do many things well.

As they grew older and formed friendships outside of the family, Robert with his supreme self-confidence based upon an undefeated past tended to see this enlarged self mirrored in the attitudes of his friends in a convex mirror, as it were. Alice on the other hand, with her timidity and distrust of self, always tended to underestimate her impressions made on others as if catching her reflected images in a concave mirror. She underestimated herself as well as others' judgments of her. Her pictures of self were the starting point for her distorted looking-glass selves, but these, in turn, tended to emphasize the distortions in her own pictures of self. The opposite tended to be true of Robert to such an extent that often he would fail to detect an unfavorable impression on others, or even unknowingly distort it to appear favorable. Robert's self-confidence was to a certain extent an aid in actually creating favorable impressions on others, but his blindness to the unfavorable ones

eventually caused such a disparity between his pictures and reality that he could not reconcile the two. Lack of self-confidence on the part of Alice probably caused her to make more unfavorable impressions on her associates and teachers than she otherwise would have made, and thus tended to augment her already inferior pictures of self and her distorted judgments of her reflections in others.

The facts that Robert cut loose from reality in later life and became mentally ill, and that Alice was hampered by a terrifying lack of confidence in her ability to achieve success in any undertaking, are later sequels to the story. Enough has been told to illustrate some of the complicated interrelations between the various pictures of self which we formulate.

When we stop to consider that all of us are fallible and likely to make errors in our judgments of both ourselves and others, we shall not be unduly concerned by some apparent variations in our own and our looking-glass pictures of self. We may say with Byron, "Think not I am what I appear," realizing that we have a lifetime to impress others with our own pictures of self and to grow into our ideals of what we wish to be. Disparities between our own honest or accurate judgments of self and others' impressions of us, instead of resulting in bitterness, should cause us to beware of judging by outward appearances and to become tolerant of both ourselves and others.

There are several important rules of action to follow in developing your pictures of self:

Try to develop accurate pictures of your present self based on study and experience instead of desire or wishful thinking, and do not feel discouraged or too elated about these true pictures.

Try to keep your own pictures of self as similar as possible to your looking-glass selves, but do not become intolerant of self or others if the two sets of pictures do not temporarily harmonize.

Keep before you a clear-cut growing picture of what you wish to become, the main outlines of which seem reasonably attainable to you.

A Greek mathematician once said, "The difficult thing of life is to know one's self, the easy thing to advise others." It is much easier to formulate the rules given above, or to determine to follow them, than to put them into actual practice. There are so many ways in which we unconsciously deceive ourselves.

Pride or insufficient courage to face unpleasant facts about ourselves or others' judgments of us may cause us to evade reality in many devious ways without being aware of what we are doing; also, temporarily unfavorable impressions of self may remain and so blur our vision that we develop consistently inferior pictures which warp our judgments and rob us of justifiable self-confidence.

Later we shall discover many of these hindrances to self-knowledge, together with numerous aids in overcoming them and in securing more accurate, true-to-life pictures. But now we are coming out of the crystal maze into a spot of great historic interest.

PERSONAL INVENTORY

Perhaps you will enjoy comparing your various pictures of self in the manner suggested here:

Try to think for a few minutes about your own three sets of pictures of self:

What you think you are.

What you think others think of you.

What you think you may become.

Do these pictures seem to be radically different or very inharmonious in any respects? Can you account for any of these differences? Do you see ways in which you could make them more harmonious?

Make a record of any differences you have noted and refer to it often as we progress on our journey.

Chapter Five

THE FOUNTAIN OF LIFE

OUR ANCESTRAL STREAMS

In the open space ahead of us is an ancient fountain overhung by a wide-spreading tree. Innumerable streams flow into the fountain. Many of them have been traced to their sources in subterranean springs, but some streams still hold the secret of their origin locked in Mother Earth's vaults. Scientists may some day discover all the combinations to open the vaults, and may then solve the remaining mysteries about these ancestral streams.

When we look into the depths of the fountain's vast pool, a strange thing happens. We all see the reflection of the overhanging tree, but the image looks quite different to each of us, for each sees the reflection of his own family tree. For this reason the guide can furnish us only general explanations of this phenomenon. We must make our own interpretations of what we see. Let us hear what he has to say of *The Sources of Human Heredity*.*

The streams which flow into the fountain are symbolic of the streams of germ plasm which are the carriers of life from one generation to the next. Our human germ cells contain twenty-four pairs of small bodies known as chromosomes, which store the determiners of inherited characteristics. These "determiners" are called genes, which are assumed to be little packets of chemicals arranged in linear order in the chromosomes like tiny beads on a string. The genes are too infinitesimal to be seen, but the idea of their existence constitutes a scientific hypothesis which accounts for many of the known facts about heredity. The chromosomes can be clearly seen and studied under the microscope.

Each of the chromosomes in a pair carries determiners for the same traits. The potentialities inherent in each chromosome may

* Adapted from materials prepared in collaboration with Dr. Barbara S. Burks.

be very different, however, since one of them was received from each parent. For example, one might carry determiners for brown eyes and the other for blue eyes. Each pair of chromosomes probably carries determiners for a large number of traits, and a single trait often depends upon determiners in several chromosomes.

Before the ovum (female) and sperm (male) cells are "mature" or ready to unite, each goes through a process of division during which the pairs of chromosomes separate, one going into each of the new cells formed by the division. Since this sorting of the chromosomes occurs at random, the uniting of two germ cells may result in any one of a vast number of possible combinations. It has been estimated, on the basis of these possible combinations of chromosomes, that there is less than one chance in 282 trillion that any two children other than duplicate twins in a given family will be identical in their heredity; and there are other factors which would tend to reduce the chances still more. Although many brothers and sisters have many chromosomes in common, the extent of possible variation affords an adequate explanation of the uniqueness of each individual. There are other causes of variation beside the random allotment of chromosomes, but this is the basic cause.

It is important to bear in mind that we do not inherit definite *characteristics*, but merely the *potentiality* for developing various characteristics to a certain degree under *favoring conditions*. The influence of environment in hindering or stimulating the development of these potentialities must always be considered in attempting to account for the qualities of an individual at any given time.

Rather dramatic evidence of the relative influence of heredity and environment has resulted from the study of nature's own experiment—twins. There are two kinds of twins, duplicate and fraternal. The first kind arises from a single fertilized ovum which, at some time in early development, undergoes a cleavage that results in two individuals. Their heredity is thus "duplicate." The other kind arises from two ova separately fertilized. Their heredity thus has no more in common than that of ordinary brothers and sisters. Twins of the first type are always of the same sex; those of the second type may be of either the same or opposite sex.

Physical and mental measurements of duplicate twins show that they resemble each other in most physical and mental traits nearly as much as one individual resembles himself if measured on two occasions over a moderate interval. Fraternal twins, on the other hand, resemble each other only a little more than do ordinary brothers and sisters. To many people this is accepted as convincing evidence of the strength of heredity, but some point out that the environment of duplicate twins is really more similar than that of fraternal twins, and that the effect of environment is thus not entirely ruled out by such studies. The slight excess in the resemblance of fraternal twins over that of ordinary brothers and sisters is also attributed to environment.

Studies of duplicate twins reared apart may eventually settle this question. In such cases studied thus far the resemblances tended to be a little less than with duplicate twins reared together. Nevertheless the resemblances were very marked in physique and mental ability and usually quite strong in personality traits as well. The fact that those twins reared in different environments still resembled each other strongly is evidence for the strength of heredity, but such differences as appeared, particularly in personality traits, were undoubtedly due to environment.

Until recently there was very little crucial evidence upon the heredity of personality traits. There is considerable reason for believing that these are more amenable to environmental influences than are mental traits, such as intelligence, although heredity, too, appears to contribute a heavy share to personality tendencies.

We now know that no human characteristics are the result exclusively of either nature or nurture. All are the product of the interaction between heredity and environment. This interaction is so complicated that it is practically impossible to determine for any one of us the exact degree to which each has contributed to making us what we are, or may contribute to our future state. An understanding of the manner in which each influences our lives is helpful, however, for self-direction.

What do we inherit?

Some of the most essential features of our heredity are *those characteristics common to all members of the human race*. They determine that we are human beings instead of some other form

of life. Our general structural organization, including upright body, hands, vocal apparatus, and a complex and highly differentiated nervous system, is one of the most important features of our biological inheritance. Added to this, inherited racial characteristics are significant, though not so clearly defined or easily distinguished as the common human traits. Both of these types of inheritance are relatively stable, though racial characteristics are becoming less distinct with the increased mobility and intermingling of peoples in our present civilization.

The facts of heredity most important for self-direction are those which deal with individual variations. We shall consider some of the qualities, having their basis in native endowment, which are significant in the determination of important individual differences.

We tend to inherit certain *external bodily characteristics*. Among these the more obvious are stature, weight, bodily proportions, sex, texture of skin and hair, eye color, facial features, and certain defects and deformities. For stature and weight, the influence of environment, diet, and exercise are considerable, of course, but there is sufficient evidence to indicate that these two characters have a definite hereditary basis. Such deformities as brachydactylism, the condition where there are only two joints in the fingers, causing the hands to be proportionately too broad, extra fingers or toes, or "web foot" are illustrations of characteristics due probably to a single gene.

Resistance or predisposition to disease often has its basis in heredity. It is quite definitely established that specific infectious diseases are not inherited, but that predispositions to certain diseases may be the result of organic weaknesses or abnormalities which are inherited. For example, some individuals seem to have less resistance to tuberculosis and other germ diseases than do others, and various types of skin vary in their degree of resistance to infection. Certain types of deafness and blindness are hereditary; also some nervous diseases, such as Huntington's chorea.

One very vital phase of our bodily inheritance is that related to the functioning of the *endocrine glands*. Our physical growth, mental development, and behavior are intimately affected by the functioning of these so-called ductless glands. They produce some very powerful substances known as hormones, which are

poured into the blood stream and carried to all parts of the body, affecting the growth and functioning of various organs, skeletal and muscular development, and our behavior. They are intermediate agencies helping to determine some of our physical traits listed previously as inherited. The functioning of the endocrine glands undoubtedly has a definite basis in heredity, though environmental conditions such as food and water, disease conditions, and even mental and emotional states in part caused by the glands have their reciprocal influence.

The thyroid gland in the neck, the pituitary gland attached to the base of the brain, and the sex glands produce hormones which have important effects on growth and behavior. Both the thyroid and the pituitary stimulate metabolism, thus affecting our behavior. Their malfunctioning may produce various abnormalities, such as the "cretin idiot," due to a deficient thyroid at birth, or dwarfism or gigantism which may result from deficiency or excess of functioning of the pituitary before adolescence. The sex hormones steer development toward masculinity and femininity. The adrenal glands located near the kidneys are closely associated with any emotions of fear and anger. In these emotional states they release increased amounts of their hormones into the blood stream and start a series of organic changes which render us capable of reacting with great energy. These examples are merely illustrative. The effects of each gland are numerous, though not fully understood as yet. These glands are interdependent, acting together and upon each other, and the particular balance of the various hormones in the system undoubtedly bears a very intimate relation to our behavior and personality trends.

The nervous system is the connecting link between ourselves and our environment and is one of our most important inherited mechanisms for growth and adjustment. This nervous system consists of a central portion, the brain and spinal cord, and nerves which run to and from this general center and connect it with every portion of the body. The sensory nerves carry stimuli into the center, and the motor nerves carry responses out from the center. The sensory nerves receive stimuli from the sense organs and these stimuli carried to the central portion of the nervous system start activity which arouses the motor nerves, which in turn arouse the muscles. The glands and all the internal organs are also linked up with the central nervous

system so that the whole organism is enabled to behave as an integrated unit.

The most important part of the nervous system is the cerebrum or higher brain center. The number of nerve cells in the cerebrum and their ability to work together in complicated patterns are, to a very large degree, a matter of inheritance. At birth we have all the brain cells we shall ever have and all that environment can do is to develop them, prevent their development, or injure them. Speed of reaction, degree of sensitivity to stimuli, and power to recover from fatigue are to a very large degree inherited, though also affected by training and experience.

The physical aspects of heredity involving the endocrine glands and the nervous system are very intimately associated with the inheritance of *temperamental characteristics*. These characteristics include speed of reaction and emotional level and balance. While tendencies as to prevailing mood, whether melancholy or cheerful, or as to stability or changeableness, probably have an hereditary basis, the influences of experience, habit, and health are so intertwined with the hereditary influence that it is difficult to determine the exact degree of inheritance of these characteristics. The same is true of the amount and quality of emotional response.

Among inheritable *mental characteristics* are certain *instinctive tendencies*. We possess at birth or develop thereafter certain types of response to stimuli in the environment, which, because of their regularity and similarity of appearance under appropriate stimuli, we call innate or instinctive tendencies. For example, an infant will start and cry or give evidence of fear at a loud noise, will struggle and show signs of rage if the random movements of his legs and arms are restricted, and will smile after a few weeks old if fondled. The exact nature of our human repertoire of innate responses is a matter of dispute among psychologists. At one extreme are those who claim that there are many fairly definite instincts; at the other extreme are those who claim that there are practically no completely instinctive types of human behavior and who explain similarities of conduct as the result of our common physical and social environment operating upon us throughout our lives. Between these two extremes are many varying claims as to what should be termed instinctive behavior.

The terms "urges, drives, or motives" are sometimes applied to these unlearned tendencies to action. Some of the dependable human "motives" which are often listed are hunger, thirst, fear, anger, curiosity, manipulation of objects, seeking the company of others, submission to leadership, self-assertion or mastery, sex desire, and mother-love. These tendencies vary in strength and are so plastic that they are soon materially affected by experience and are woven into diverse and complicated patterns of behavior.

Intelligence and special aptitudes and traits are at least partially dependent upon qualities of the nervous tissue and brain development, and, in addition, in the case of some special abilities, upon many special variations of the physical mechanism, such as refinements of the mechanism of the inner ear for pitch discrimination or of muscular coordinations for mechanical ability. To the extent that mental traits may be dependent upon such physical characteristics, we can easily understand their hereditary basis, but our knowledge about this relationship is very limited.

We have much less direct knowledge about mental than physical inheritance, partly because, owing to the influence of the social environment, mental characteristics are much more difficult to observe and measure than physical traits. However, recent progress in the measurement of intelligence and of some of the more specialized mental abilities and personality trends has greatly increased our knowledge of mental inheritance.

Aside from intelligence, some of the special traits which run in families and which probably have an inherited basis are artistic talent, musical ability, literary ability, mechanical ability, and scientific aptitude. Many interesting family histories have been collected upon musicians particularly. The Bach family history is, perhaps, the best known. In eight generations there were fifty-seven individuals of very superior musical ability; twenty of these became eminent.

To what extent can one ascertain the nature of his heredity?

While the random fashion in which the chromosomes of parents are allotted to the germ cells makes it impossible to predict the hereditary traits of any individual with certainty, it is possible by studying the lives of one's ancestors for several

generations to tell a good deal about the traits one is likely to possess. Such a study is complicated by other aspects of inheritance. Some determiners in the germ cells are *dominant*, that is, they tend to reveal themselves in the traits of an individual if present in the germ plasm. Others are *recessive*, that is, they remain dormant, as it were, if opposing dominant determiners are present in the germ cells, and can only appear again if combined with similar recessive determiners in later generations. Eye color is an illustration of this tendency toward dominance, brown being dominant and blue recessive. There is always the possibility that recessive determiners will show up or that dominant ones will be lost in the allotment of chromosomes from both parental lines. Moreover, there is probably reciprocal influence between most pairs of genes instead of complete dominance and recessiveness. Also, changes taking place in the genes may sometimes result in the production of new characteristics never before seen in a particular family line. It is evident that the situation is so complicated as to make impossible an evaluation of one's heredity *solely* on the basis of apparent presence or absence of characteristics in one's ancestors.

Nevertheless, if we keep all these difficulties in mind as a safeguard against unwarranted conclusions, it is possible to derive some valuable information from the study of our ancestors. There is danger, however, of reaching quite unwarranted conclusions about heredity from unguided study. Expert advice and guidance from someone trained in the science of eugenics should be secured if possible.

It is desirable to begin studying one's ancestral lines when one is fairly young, while older members of a family, who can often give valuable information about relatives, are still living. This information about significant characteristics and achievements of relatives for several generations back may afford many clues for studying one's self. Much of it is likely to be somewhat unreliable, however, and should be used with caution. An outline is given on pages 50 to 51 as a guide in such study.

In considering the possibilities for inheritance, one should bear in mind that environment can develop nothing which is not implicit in one's heredity. For example, it should never be assumed that *because* one parent, say, has developed musical ability to a high degree or has been highly educated, or has

failed to achieve in either way, one's innate potentialities will be affected thereby. One may inherit the same degree of ability or none of it or have it lessened or augmented as a result of the hereditary strain from the other parent, but the tendency will be due to the germ plasm, not the training. The training of either parent may, of course, result in an environment favorable to the development of whatever potential ability one possesses. In the interests of clear thinking and insight into the problem, the two factors—heredity and environment—should be distinguished, even though they are inextricably interwoven in one's life.

What is the significance for life planning of knowledge about heredity?

Our present knowledge regarding human inheritance is of greater significance socially than individually. We still lack much knowledge needed to make an accurate and comprehensive study of our potentialities. However, enough evidence has been accumulated regarding the presence in certain family strains of feeble-mindedness and other weaknesses and abnormalities and their relation to immorality, crime, and poverty to point to the need of an eugenics program in the control of social problems. H. G. Wells has said that "to prevent the multiplication of people below a certain standard, and to encourage the multiplication of exceptionally superior people is the only real and permanent way of mending the ills of the world."

Each of us can contribute his share to the furtherance of such a program by the study of his own family strain and that of a contemplated mate. Many fairly obvious and often important trends can thus be detected and given consideration.

Knowledge of heredity can help us individually in self-direction by providing a better understanding of ourselves, thus enabling us to exercise more intelligent control over our lives. Our *uniqueness* as individuals is an important factor in self-development. Each of us is unique in having a combination of inherited potentialities not possessed by anyone else. (This statement probably holds true for all except duplicate twins.) What does this fact mean in our development and self-direction?

We sometimes wish to be or do this or that because of an admired friend, relative, movie star, hero, or heroine. True, life plans and techniques of living can be discovered by studying

the lives of people about us and by reading biographies to determine how others have planned and achieved. But a borrowed or copied plan may cause failure and unhappiness. Life plans of others are valuable only when considered in relation to our known potentialities and utilized wisely in the light of this understanding. We may often be imitators in our dress, houses, automobiles, etc., without too serious consequences, but a whole life cannot be pressed into the mold of another life without cracking the mold or rendering true self-realization and happiness impossible. Even as a sunflower would not be attractive in a rose vase, nor a single tiny rosebud in a huge ornamental vase, so with our lives.

Our knowledge of heredity teaches us that we must be what we are and must waste no time trying to be what we are not. By discovering and fully developing our best potentialities, we lay some of the sound foundations for satisfying and worthwhile lives.

In order to direct our lives intelligently, we need also to consider *the limits of our individual variation*. We can inherit only what is implicit in the germ plasm of our ancestors. At first thought this assertion may seem too self-evident to warrant discussion. But how often in our thinking and talking do we assume that opportunities or lack of them have been the sole determiners of what we are? Of course, environment in the form of opportunities for development is often as important as innate potentialities, but it cannot develop what is not present, nor develop in high degree what is present only in low degree. Also we are not so much merely *plastic* under the stimuli and pressures of our environments as we are *responsive* in different ways to them. Whether or not we respond to particular environmental stimuli depends on what we are.

The strength of our inherited potentialities is another significant factor. Most of our traits that are very significant are not merely present or absent, but are present in some degree. From the viewpoint of self-knowledge, the important thing is to discover as accurately as possible the degree to which we possess given traits.

Although studies of our relatives can give us suggestions as to the possible strength of various traits, they can give us no conclusive answers. We shall seek for more definite answers when we are farther along on our journey.

PERSONAL INVENTORY

Perhaps you will wish to investigate your own ancestral streams by making the inventory described below. (In making this inventory do not expect your findings to be highly reliable. They should merely serve as clues in studying yourself.)

Draw a vertical line down the middle of a sheet of paper to make two columns, and head the left-hand column "Relatives" and the right-hand column "Self." List in the left-hand column under the headings of four types of characteristics—physical, temperamental, mental, and social—the significant traits of your relatives, including those of parents, brothers and sisters, grandparents, uncles, aunts, and first cousins. In the right-hand column under each heading list what you consider some of your probable significant potentialities. In addition to your own judgments you may wish to use those of friends when you list your own characteristics.

Under the heading pertaining to physical characteristics, note general health, vigor and vitality, life span, and other normal traits and also abnormalities or peculiarities, diseases, etc., of your relatives. When listing temperamental characteristics, indicate such traits as a noticeable melancholic trend, unusual cheerfulness, variability of mood, irritability or placidity, evenness of temper, emotional stability or instability, tendency to strong or weak emotional reactions.

In considering mental characteristics, note interests and abilities as they may be evidenced through vocational and avocational pursuits of relatives. List those traits which you consider of most conspicuous value, also those you consider undesirable. Indicate special artistic, intellectual, or mechanical abilities, religious trends, and also desirable or undesirable conspicuous traits of character manifested by relatives.

Under the heading of social characteristics should be included strength and permanency of family ties, club and other social interests, activities in public service, social reforms, etc.

If, in the interest of understanding the possibilities of your own heredity, you wish to study specific characteristics more carefully, you might prepare a sheet with columns and headings like those below. Indicate in the columns for parents and other relatives and for yourself the condition with respect to each characteristic. The presence or absence of a specific characteristic may be shown by using the symbols *p* and *a* respectively. Degrees of possession of a characteristic (*e.g.*, musical ability) may be denoted by using "1" to indicate a high degree, "2" average, "3" low.

Filling out the chart may give you many interesting side lights as to which of the characteristics dealt with recur frequently in your

ancestry and it may reveal clues concerning the possibilities of your own heredity.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Characteristics List the characteristics which you wish to study in your ances- try and in yourself	Father's father	Father's mother	Mother's father	Mother's mother	Father	Mother	Father's brothers	Father's sisters	Mother's brothers	Mother's sisters	Brothers	Sisters	Cousins	Self

To stimulate your own thinking it may be valuable for you to consider which of your family characteristics might prove to be assets and liabilities from the eugenic point of view, affecting the welfare of future generations. If you are interested in this phase of the problem, check back over your list, placing a plus sign (+) before each trait which you think might prove an asset, and a minus sign (-) before each you think might prove a liability. If you are seriously interested in this question from the viewpoint of choosing a life mate, you should try to secure advice and guidance from someone trained in the science of eugenics, since there is danger of an untrained person's reaching quite unwarranted conclusions about his heredity from unguided study. We cannot predict with certainty in this field.

Chapter Six

THE BUILDING SITE

SURVEYING OUR ENVIRONMENT

In surveying the building site of our personalities we shall encompass that intangible fourth dimension—time. Our journey will lead us far back into the past of human experience and into the social world of human interplay as well as into the physical realm. We shall survey sketchily not only the material world of land, water, air, sunshine, food, clothes, books, machines, buildings, and gadgets, but, also, all those myriad human relationships in which we live and develop physically, mentally, and socially.

Just as trees depend to a large extent upon their environment—the soil, moisture, sunshine, wind, and surrounding, or, in some cases, distant forms of life—for their growth, so do we depend upon our environment for our physical and personality development.

Just what part do all of these conditions play in making us what we are? Why does one individual become stunted or diseased and another healthy and vigorous? Why does one become shy, self-conscious, and perhaps unsocial; another bold and disagreeable; and still another gracious, charming, and popular? Why does one person become a leader in some field of human activity, another a scholar or an inventive genius, and another a failure in whatever he undertakes?

Our understanding of the many factors which are continuously influencing our lives is too limited to give us conclusive answers to all such questions. We do not know to just what extent shyness or timidity, for example, may be due to an inherited tendency of some sort which hinders an individual from reaching out and attempting to control his environment, or to what extent this tendency may have been imposed upon him by the attitudes or actions of others, or may have resulted from unsuccessful attempts to cope with his problems of living. The effects of heredity and environment are too closely inter-

woven to enable us to determine the exact influence of either. Research and experience, however, have unraveled some of the threads and have provided us with some fairly well-established facts about the influence of environment. We shall at first go rather far afield from the direct influences since the past lives in us as truly as the present.

Throughout the ages the influence of the physical environment has been a mighty force affecting all forms of life, determining to a large degree what potentialities shall develop and in what manner and degree, and what forms of life shall survive as species. This *selective* force working through countless centuries has undoubtedly been largely responsible for the distribution of forms of life in the world, and interacting with hereditary tendencies, has been a determining factor in the particular manifestations of life exhibited by the various forms.

Many theories have been advanced to account for the adaptation in all forms of plant and animal life. The one that seems most nearly to conform to known facts is that the conditions in any region have acted as a selective force enabling those forms of life to survive and have progeny which had through heredity the potential characteristics necessary for life in that region. Because they were inherent in the germ plasm, these potentialities were passed on through the generations. The heavy pigmentation of the African negro, affording protection against the powerful rays of the tropical sun, or the large lung capacity often characteristic of peoples living in very high altitudes might be cited as probable illustrations of this sort of adjustment between environmental and hereditary influences among human beings. Does this process—the survival of the fittest—still operate in our lives today?

In the dim past our ancestors measured their physical environment by the distances they could cover on foot or see with the naked eye. Today we can hold the world in our hands, as it were, and look and listen. Our food, clothing, books, newspapers, motion pictures and radios, to mention only a few modern marvels, bring the whole world into our everyday experiences of living. And whole constellations of worlds have been brought within our ken. What has caused these miracles?

Our human knowledge, inventions, and ingenuity have partially conquered time and space, and have overcome many of the former selective influences of the environment. Applied

science has eliminated many of the unfavorable effects of various climates and conditions on health and vigor, has even changed the topography of the land or utilized it to advantage, has vastly increased our supply of food and other necessities, and has created innumerable luxuries.

But much still remains to be done to make us masters of our environment. Difficulties of adjustment to extreme changes in climate are still partially unsolved. The Englishman who returns from India for his health and the American in the Philippines who has "missed too many boats" back to the States are illustrations of some of these difficulties. The extent of poverty and deprivation which stunt human life both physically and mentally, or extinguish it, presents, in the face of our enormous production and marvelous system of transportation, appalling evidence of our failure to control and to administer our human estate wisely.

This is an advantageous point at which to measure the limits of our human estate. Machines, man's substitute for his hands, can produce plenty for all of us, yet many are without even the bare necessities. Do we need to expand our boundaries by securing some coveted land? The solution is not so simple; it lies within ourselves and our human relationships instead of our physical environment.

Social cooperation, which has been one agency for conquering and controlling the physical environment, is one of the most powerful influences in our lives. Our understanding and control of our social relationships, however, have not progressed so far as our understanding and control of the physical environment. The solution of many problems must wait upon progress in our social realm. We are still in the childish stage of not wanting to share our toys, or even of trying to appropriate those of our playmates. The solution of our economic problem of distribution lies partially in humanity's coming of age.

Some well-founded hope for the future solution of existing problems lies in the fact that much progress has been made in our social living. Infant mortality has been markedly decreased, and the average life span considerably increased by the expansion and application of knowledge of hygiene, and of the causes and control of disease, and by improved sanitation achieved through widespread education and social control. Physical handicaps which would tend to eliminate an individual

from competition in our complex industrial order are often prevented or overcome by medical knowledge and skill.

Heightened social consciousness of the needs of the poor, sick, feeble-minded, and other unfortunates and the development of social agencies to care for them have resulted in the salvaging of many lives which in other civilizations would have been unceremoniously snuffed out. The voluntary application of our knowledge of eugenics by some of the enlightened few, and segregation, and in some places the sterilization, of feeble-minded, insane, or criminals as birth-control measures are probably important steps toward improving the general level of the population. However, the warning has been sounded by many in recent years that the preservation of unfortunates by society, combined with the limitation of offspring by families representing the best human stock, may result in a preponderance of weaklings and misfits. Our present knowledge of human heredity is still too inadequate to predict the outcome accurately, but it points to a real danger.

We have reviewed some of the ways in which the selective influence of environment has been partially overcome. In what ways does it still operate?

The boundaries of scientific knowledge must be pushed forward considerably to bring under control from the viewpoint of both prevention and cure many widespread diseases such as cancer, tuberculosis, and new industrial diseases. Ignorance and gullibility still continue to give quacks and impostors a good living and controllable diseases their unnecessary victories. Sanitation in many factories and crowded city districts is still far from satisfactory. Avoidable industrial and highway accidents are all too numerous.

War between nations and between racketeers within nations continues to take its toll of human lives. Expanded social consciousness both within and between nations may some day eliminate these sources of selection. Certainly modern warfare tends to eliminate a large portion of the socially fit among the combatants and is quite indiscriminate with non-combatants within its range of operations. International-mindedness has made great strides within a generation but economic fear and competition are still snags in its path.

The rapid changes in our civilization have created for all of us difficult problems of adjustment, involving much nervous

strain. Specialization in industry and all fields of vocational endeavor has lengthened the period of preparation needed for entrance into the technical or professional fields, and has tended to advance the age for marriage. For the mass of workers the mechanization of labor in machine production has lessened the opportunity for creative outlets and hence for satisfaction in work. The prevalence of passive forms of recreation such as the movie and the radio has tended to limit the opportunities for creative self-expression in leisure-time activities. This problem is intensified by the rapid increase in the amount of available leisure time.

All of these conditions help to create problems of finding worth-while and socially desirable outlets for our instinctive drives. The demands and discontents connected with this civilization have probably caused many of the nervously and emotionally unstable, who might have weathered the storm in a more primitive social order, to join the ranks of the mentally ill or insane. Whether the incidence of mental disease is actually increasing is difficult to tell, but the numbers of patients in hospitals for the insane have increased considerably in proportion to the total population in recent years. Mental hygiene is still a "movement" and has not been generally accepted as a necessary part of the public-school curriculum. When it becomes as firmly established as physical hygiene, it should help to eliminate preventable mental illness, thus salvaging many socially valuable individuals and increasing the sum total of our human happiness.

We have gone far afield in both time and space, but we need this perspective to see our immediate building site in its true proportions, so that we may consider the *formative influence of environment*.

That oft-quoted statement from Tennyson's *Ulysses*—"I am a part of all that I have met"—may be said of both our bodies and our minds. The body is dependent upon food, water, air, and sunshine for its development. The tendency toward a certain stature is undoubtedly determined by heredity, but disease or the lack of the right kinds of food, fresh air, and sunshine during the period of growth may cause a stunted body or mind, just as barren soil and winds may produce a dwarfed or deformed tree. A poor balance of food elements may exercise a harmful influence, either physical or mental or both. Physical

health, vigor, attractiveness, or deformity all have their effects on the developing personality. If frail or deformed, one may miss many of the normal experiences in life and as a result become warped in outlook and personality.

Climatic conditions doubtless affect energy and vitality, and may even affect temperament. It is often claimed that cloudy regions have a depressing effect and that plentiful sunlight fosters a buoyant temperament. Differences in national characteristics have been attributed partially to climatic differences. Studies of achievement, of different sorts under varied conditions of temperature, humidity, and motion of air indicate variations of efficiency with changed conditions. Physical efficiency appears to be more affected than mental efficiency under some test conditions, though the inclination to do mental work decreases with increased temperature and humidity and poor ventilation.

Studies of the efficiency of factory workers, the achievement of college students measured by grades, and the accuracy of bank clerks have shown decided seasonal variations which indicate that the moderate rather than the hottest or coldest seasons are more conducive to the highest efficiency. Evidence also shows seasonal variations in the kind and amount of crimes and of nervous disorders. Huntington, who has made extensive studies of the influences of climate, emphasizes its importance in character development, and points to the tropical regions as a prolific source of character weakness in Europeans.

Other possible sources of lack of energy are to be found in parasites or bacteria which may attack the human body and sap vitality. The devastating effects of hookworm in some sections of the southern states and of malaria in various parts of the world are outstanding illustrations of this sort of influence.

No attempt has been made here to consider systematically the influence of our physical environment. A few illustrations have been chosen merely to emphasize the fact that this is one factor which is continuously exerting some effect on our physique, energy, and mood, and may thus be one formative influence working on our developing personalities.

A striking illustration of the importance of the social environment for developing personalities is the story of the changes wrought in Helen Keller through the mastery of language which brought her back into contact with human life. Cut off from communication with other human beings at eighteen months

by the loss of sight and hearing, she is described as uncomprehending and lacking most human qualities until, through the persistent efforts of her teacher, she gained the understanding that everything had a name. This insight, which was not achieved until she was nearly seven years old, enabled her to communicate with others and share her experiences with them, and thus opened up for her a new emotional and intellectual world. From that time on her mental and personality development was rapid.

From birth onward we continuously build into our personalities attitudes, beliefs, and habits of thinking, feeling, and acting which prevail in the social milieu in which we live. McDougall has expressed this fact by saying that, "Society, like the Kingdom of God, is within us." Like the physical environment, our social world may stimulate or stunt the development of our innate potentialities. It may afford us experiences which help to build up wholesome or unwholesome personality trends.

Early relationships with parents, brothers, or sisters in the home are among the most potent of these social influences. The attitudes, ideals, and behavior patterns built up in these early years exert a profound influence on our later development. Harmonious relationships between parents and with their children promote a sense of security and confidence, while friction and maladjustment in the home may leave insecurity and unsocial attitudes in their wake. An oversolicitous attitude of a parent may foster timidity or dependence; undue severity or neglect may likewise have undesirable effects. Success or frustration in relationships with either parents or brothers and sisters helps to establish pictures of self which will be carried over into and help to determine the nature of later experiences outside the home. The cultural influences in both home and community affect the development of interests and mold standards and ideals of conduct.

The status established in play groups and early experiences in school may exert profound influences upon adjustments throughout life. Of course, success or failure in school tasks or play activities may produce very different effects in different individuals. With one child failure of some sort may produce discouragement and a sense of inferiority resulting in a withdrawal from further effort, while with another it may serve as a challenge to spur him on to ultimate success. We can seldom be

sure how much these differences are due to earlier experiences and how much to innate tendencies. As a practical aid in self-direction, however, it is important to realize that *how we react* to experiences is more important than *what happens* to us. The effective application of this principle brings the control of many environmental influences into our hands and helps to make us masters of our fates.

How do heredity and environment interact in our growing personalities?

It is a far cry from the relatively simple types of conduct manifested in the young infant to the complex behavior of an adult. Yet the intricate, many-sided personality of the adult which is manifested in all the varied experiences of human living is the resultant of a continuous process of growth and development from babyhood on in which the hereditary potentialities are played upon and in turn play upon the stream of influences in the environment. Only by understanding something of the nature and course of this interaction of self and society can we understand ourselves at any time—why we think and feel and act as we do in the changing situations of life.

This process of development takes place in different ways. Many of our personal characteristics seem to develop without any effort on our part. The ability to walk or talk in childhood and aspects of personality associated with the maturing of sex functions in adolescence are examples of this sort of development. Experiments with young children have indicated that a normal child will walk when the walking function is matured, without a long period of training. The large majority of our characteristics, however, are the result of our active responses to situations, as well as the maturing of functions upon which the responses depend. They would not develop without this self-activity, so that we are really engaged in a continuous process of building the materials, as well as fashioning them into a life structure.

New forms of response to environment are being developed continuously as we grow; those which become fairly well fixed at any time as modes of response to particular situations we call behavior patterns. A complete inventory of our behavior patterns at a given time would give us a cross-section view of our traits of personality at that time.

Our personalities may, therefore, be thought of in terms of the development of new and varied types of habits—habits of thought, feeling, and conduct which determine the life adjustments which we shall make at any time. These behavior patterns, which grow out of our interplay with our environment may be very different in different situations. Each of us may develop different patterns in what may appear to be similar situations.

We noted earlier when we were in the crystal maze how many-sided and variable our personalities are. There are the selves that others see, varying with the spectator. Then there are the selves that we see in ourselves, varying under changing circumstances, and also the pictures of ourselves that we see reflected in the looks, actions, and attitudes of others.

There is a continuous interplay between all of these selves, but ultimately, out of this interplay, we need to develop a total, integrated self which is unified by our controlling interests, goals, and purposes in life. This integrated self is the outcome of our total past and grows on into the future, determining and in turn being changed by our emerging life experiences.

Our personalities may thus be pictured as our varied selves working together, ideally, as a synchronized whole. We should not feel disturbed however, if we fail to grasp the picture in its entirety, for, as Morton Prince has said, "The world still awaits the great dramatist who will draw, if possible, a complete picture of a human personality, true to nature and under the confining canons of art."

PERSONAL INVENTORY

We shall need to wait for a thorough inventory of our environment until we reach the Hall of Memories, but we may find it not only interesting but also helpful to stop here to make a few jottings in our diaries. Here are some hints for your entries.

Try to recall and list features of your physical environment in earlier years which might have affected your development as a child. Consider climate, food, and any conditions in the home or elsewhere which might have influenced you. Can you note any effects of these early conditions upon your present self? If undesirable, can they be overcome? If not, how can you compensate for them?

Likewise try to recall and list features of your social environment in early years, considering both temporary and continued influences

upon your personality. Include parents, brothers or sisters, or other relatives, playmates, teachers, etc., also books, music, art, religion, radio, movies, theater, travel, etc., and the nature of your work and play experiences. Attempt to answer the same questions relative to the effect of your social environment as were asked relative to your physical environment.

Make a list of what you consider the favorable aspects of your present environment, both physical and social. Are you making the most of these favorable aspects for your self-development?

Make a list of what you consider unfavorable aspects of your present environment, both physical and social. Which of these unfavorable aspects can you eliminate or avoid? Can you learn to react negatively to those which you cannot avoid at present?

Think over your habitual types of behavior during the last few months in different sorts of situations, such as at home and with different members of the family, in different social and work groups, with close personal friends, with individuals whom you may dislike, etc.

Are you aware of certain behavior patterns you are using in any or all of these groups? Make a descriptive list of them.

Try to discover what, in yourself or your environment, has caused these behavior patterns to develop. Mark those you have listed as either desirable or undesirable. Suggest how you think you may overcome or eliminate the undesirable ones.

List your dominant interests at present. Do these tend to integrate or give meaning to most of your activities? Do any of your present activities seem entirely unrelated to the rest of your interests and activities? Try to discover ways in which you may relate them to others.

We shall want to refer to these jottings later, but we shall need to stop our meditation temporarily and prepare for the next experience on our journey.

Chapter Seven

THE TOURNAMENT OF TRAITS

TESTING OUR BUILDING MATERIALS

This Tournament of Traits in which we shall be participants instead of spectators is a modern version of a very ancient game—nearly as old as the Olympics. Some of the former methods of conducting the tournament involved classifying the participants according to their profiles, whether convex or concave, or according to their coloring, blonde or brunet, and assigning different parts in the game to groups on some of these bases. Very complicated systems of classification have been developed utilizing all sorts of physical features of the face, body, and cranium. Other classifications have been based on handwriting, characteristics of the hand, or lines on the palm.

Exponents of some of these systems formulated many complicated and detailed rules of the game. Lavater, for example, formulated *One Hundred Physiognomical Rules*, a specimen of which reads as follows: "A broad brown wart on the chin is never found in truly wise, calmly noble persons."

Practically all of these systems are based upon the assumption that certain physical characteristics are associated with certain mental traits which can be ascertained for any one person by the observation of the significant aspects of his physique. Recent research studies to test the validity of these assumptions invariably fail to substantiate them and indicate that these methods have no practical value for the judging of human traits. As one psychologist has said, they "are about as reliable as black magic or hoodoos." We now know that the localizations of various traits in the brain posited by the phrenologists were wrong, and that there is no more relationship between "bumps" on the skull and mental or personality traits than between the hood and the motor of an automobile.

One of the ancient systems of classifying human beings, according to so-called "humors" of the body, might be com-

pared with a modern approach to the study of general body build or physique. Present-day study of this question has grown out of our modern knowledge of body chemistry, especially as it relates to the functioning of the endocrine glands. The effect of the secretions of these glands upon growth, mood, and activity is a well-accepted fact, but our knowledge of their exact influence is probably still too meager to warrant any very definite classification of individuals on this basis. Several adventurous souls have made the attempt and have described the thyroid-centered, or thyroid-deficient types, or the adrenal-centered, or adrenal-deficient types, etc. This theory of types assumes that the ductless glands hold a sort of "interlocking directorate" over the individual, with the dominating influence being exercised by the strongest because of what it contributes in excess, or by the weakest because of what it withholds below the average. The attempted classifications have involved much overlapping of types and have been based largely upon the study of psychopathic subjects. These studies need to be extended to include people making normal life adjustments before the results can safely be applied generally.

What are our newer methods of testing our human traits? You are perhaps impatient to have the tournament start, but we must be sure that all the participants understand something of the science of the game and how to play it.

When we wish to determine our height, we use a measure of linear distance; when we wish to discover our blood pressure, we use a measure of force or pressure. Up to comparatively recent times, however, we have had no measuring sticks for our mental characteristics other than subjective judgments, inference based on easily observable physical characteristics, and our relative success or failure in various life activities. Experience long ago taught us the economy of measuring the strength and durability of materials used for building purposes by artificial tests rather than by waiting to observe the results in completed structures.

We have been much slower in applying this principle of economy to ourselves, partly, of course, because of the greater difficulties involved in developing measuring devices for our plastic and infinitely varied human materials. Tremendous progress has been made in the last quarter of a century in scientific knowledge about the nature of personality and in the

development of methods for measuring personality tendencies. These measuring instruments are recognized by all scientific workers to be imperfect as yet—probably in many instances more crude than the human hand or foot for measuring linear distance; however, they have been demonstrated to be vastly superior to methods other than that of the actual test of experience itself, which is so very wasteful of human life.

Good illustrations of this waste may be found in the field of vocational endeavor. Life is too short to enable us to make many trial-and-error attempts, involving preparation and experience, to determine what work will yield us the best success and satisfaction. With fumbling chance efforts at choice of a life work, the result is too often disappointing failure or an inadequate, unsatisfying life, rather than a full and happy realization of potential possibilities. Scientific mental measurement affords no ready-made devices for assuring us success and happiness in life, but it has dispelled some of the fog surrounding the riddle of the centuries—the human personality—and it offers us opportunity for self-study which no intelligent person should overlook.

One of the first difficulties, and perhaps disappointments, which we shall encounter is that there are no ready-made classifications of types into which we may try to fit ourselves. Bergson, the philosopher, has said that the difficulty in trying to fit human life into molds is that the molds may crack. The truth of this statement has been fully proven by much painstaking research and we shall demonstrate it to ourselves in a preliminary practice test out on the tournament field.

On page 66 is a diagram of our field. We are to form in lines according to our height, all of the same approximate height being in one line. Each broken line on the diagram stands, in this instance, for members of our group who are of a particular height and each individual should locate the line in which he will take up his position. The numbers across the bottom of the diagram indicate certain *percentiles*, or positions on the field, which will enable you to determine your rank within a representative group of 100 persons. For example, the line numbered 50 is the *fiftieth percentile* or the average rank, meaning, for height, that there are equal numbers of people taller and shorter than the person who places on this line. The line numbered 10, or the *tenth percentile*, indicates the position of a

person who ranks tenth in a group of 100 persons, 1 representing the shortest and 100 the tallest person in the group. The line numbered 90, or the *ninetieth percentile*, indicates the position of a person who ranks ninetieth in a group of 100, 10 per cent being taller and 89 per cent being shorter than this person. Table I shows the approximate heights in inches for men and women, corresponding to each of the percentiles located on the diagram of the tournament field. You should determine which percentile represents the height for your sex nearest to your own height.

Table I

APPROXIMATE DISTRIBUTION OF HEIGHT IN INCHES ON NORMAL PROBABILITY CURVE*

Percentiles	Men	Women
10	64.4	60.0
20	65.7	61.0
30	66.4	61.5
40	67.9	62.8
50	68.4	63.0
60	68.8	63.2
70	69.2	64.5
80	70.9	65.1
90	71.1	66.2

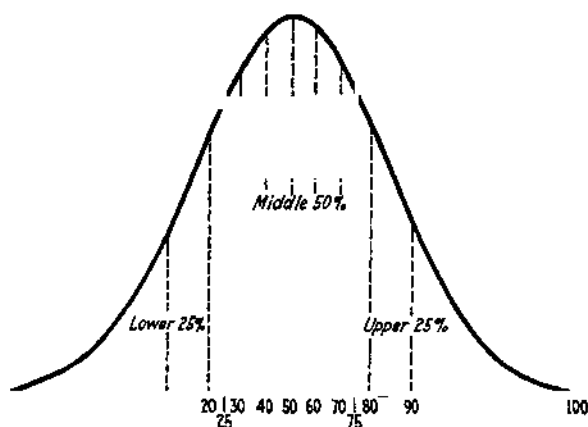
* Computed from statures of 1,079 British husbands and their wives as reported by K. Pearson and Alice Lee in "On the Laws of Inheritance in Man. I. Inheritance of Physical Characters," *Biometrika*, 2: 357-462, 1903.

Now let us go out on the field to find our places. Do not be concerned if you are shorter or taller than any of the rows represented on the diagram, for you will discover that there is plenty of room to form additional rows on either side. When we have lined up, the mass formation will look almost exactly like the diagram (page 66). There are a very few in the rows at the extreme ends and an increasing number in each row as we approach the center, with the largest number in the center row. The heavy unbroken lines divide the group into the middle 50 per cent and the upper and lower 25 per cent, so that you can determine in which group you fall with respect to height.

This formation we call a *normal probability curve*. We shall find that we distribute ourselves in much this same way in every

one of our testing jousts, the only difference being that each of us will probably have a different position on the field for each test in which we try out.

It may be well to caution you before the real testing begins that you may be exposed at this point to that dread disease, morbid introspection. However, your inoculation with the scientific method of thinking should give you full protection against this danger. The important thing to remember is that



you want to discover all you can about yourself, not just to make a high position on each tryout. You cannot fail on these tests because they are not that kind. Probably you will be high on some, average on others, and low on some. On some of the tests it may be better for you to be either average or low rather than to be high, for your particular combination of traits is usually more significant than is the strength of any one trait.

One more suggestion. We shall be handicapped in these tests if we do not remove our mental masks and costumes and try to be completely ourselves. Our mental nakedness need not embarrass us, for each of us will be occupied with his own activities and unaware of his teammates.

To participate most effectively in this testing game you will need equipment in the form of tests and rating scales, together with manuals of directions and scoring keys or, better still, test data which you have secured as the result of taking the tests under the supervision of a specialist in testing. Lists of tests and their publishers are given on pages 307 to 309. If you

are without equipment, you will find partial substitutes for some tests on pages 309 to 321. These will not be nearly so satisfactory as the tests or the test data themselves, but their preliminary use may help you to determine which tests you would like to use in later tryouts.

In considering each trait or aspect of personality, you should take the test which you have secured for that trait or keep before you your test data which you may already have secured. If you are taking the tests as we proceed, be sure to read the directions in the manual very carefully first, and follow them explicitly. Any variations in the procedure will render your results worthless. For some tests you may need the assistance of another person who will time you exactly to seconds or who will read directions at appropriate times. Be sure not to examine the tests themselves until you actually take them according to directions.

THE TESTING GAME

A few words of explanation may be needed regarding the tests. They are usually paper-and-pencil tests in which you are confronted with a series of questions, problems, exercises, or described situations to which you must respond according to prescribed directions, and often within certain time limits. In some cases the test is given orally or consists of a series of manipulative activities. Materials included in the tests are chosen on the basis of sampling the sorts of situations which would call forth reactions characteristic of the tendencies being measured.

These tests have been "standardized" by giving them to a sufficiently large number of people of given ages, sex, or other conditions to secure a representative sampling, and norms have been determined on the basis of test scores made within a group, so that any one may be compared with others in his group as to the relative extent to which he possesses the tendencies being measured. One commonly used method of stating the norms is in percentile scores which make it possible to determine what rank you would have within a representative group of 100 members. Another convenient way of locating yourself relatively in a group for any characteristic is to discover whether you place in the middle 50 per cent, above or below the

median, or middle of the group, or in the highest or lowest 25 per cent. We have already used both of these methods for the tryout test of height. Oftentimes interpretative norms developed for a test allow for still more precise location of your position on a normal probability curve.

Since there is always the possibility that you will vary your score somewhat on a test, if repeated, interpretations of your score in terms of your position in a group are preferable to other interpretations, because they emphasize the fact that the test score indicates a tendency rather than a definite classification of absolute ability. Any test score should be interpreted in terms of your variations from other individuals—not according to absolute standards.

After your relative position in a group has been determined with respect to the characteristic being measured, the problem of interpretation becomes that of predicting what this may indicate as to possible behavior or achievement. No perfect system of "fortune telling" has ever been developed with respect to either one or a group of characteristics measured, but rather surprisingly accurate predictions have been made on the basis of some. Tests of "general intelligence," which were among the first to be developed in this field of human measurement, have been widely used in educational institutions, and comparisons of intelligence-test scores and educational achievement measured by tests or marks have shown a fairly high degree of relationship between these two factors. Those individuals with relatively high scores on intelligence tests have tended to receive higher marks in school subjects and to progress further in their education than those with relatively low scores. There are many individual exceptions to this tendency, which have in some cases been accounted for by other characteristics, such as industry or laziness, interest or indifference, health, or special aptitudes, or by external circumstances. These exceptions show that no completely accurate prediction of achievement can be made on the basis of intelligence alone, except perhaps for those in the lowest ranges who are termed feeble-minded.

Studies in business and industry have led to the frequent use of batteries of tests and other standards for determining the selection, placement, and promotion of employees. All such methods need to be used cautiously at present, since there is still

a wide realm of unpredictability in human life which has not been brought within scientific understanding and control. However, scientific measurement and prediction have been the chief agencies in reducing chance and guesswork and will continue, undoubtedly, to contribute increasingly to the solution of human problems of living.

What aspects of personality can be measured by these objective tests? What of your *intelligence*?

Intelligence, like most aspects of personality, is difficult to define, but it involves the capacity to adjust one's self to new situations through the use of what has been learned before, the ability to see relationships and exercise practical judgment. It involves the capacity for carrying on the higher mental processes dealing with symbols and abstract thought. The degree of one's intelligence depends upon the degree of one's capacity to form complex patterns of meaning out of the elements of experience.

Most of the group tests of general intelligence involve verbal facility, that is, proficiency in dealing with language symbols, number sense or ability in calculation, a fund of common information, memory for what has been learned, and practical judgment or efficiency in analyzing and solving everyday common-sense problems demanding ingenuity in seeing relations and in using symbols in their solution. These are much the same abilities called for in school work, and some studies have indicated that ordinarily about 90 per cent of the capacity measured by the all-round school-achievement test of reading, arithmetic, science, history, etc., may be the same as the capacity measured by a general intelligence test. The intelligence test is aimed at discovering potential learning ability.*

The mental age, or mental ability of an individual at any one time, is determined by comparing his score on the test with the average score of others at various age levels, usually up to sixteen or eighteen years, at which time an individual is con-

* Samples of some of the types of tests frequently included in mental test batteries are given on pp. 309-317, together with directions and scoring keys. These will not enable you to secure an I.Q. or a percentile rating but will afford you opportunity to try yourself out on certain aspects of so-called general intelligence and to secure approximate interpretations of your scores. If a percentile rating on an intelligence test is desired, it is usually preferable to have the test administered and interpreted by a specialist in testing. Such a person may often be found in the public schools, in colleges or universities, or in private personnel bureaus.

sidered to have reached mental maturity and so can check his score only against the average score for adults. Degree of intelligence is often expressed in terms of the I.Q., or Intelligence Quotient, which is computed by dividing the mental age by the chronological age. Sixteen years is commonly the highest chronological age used in computing the I.Q. For a person older than this, sixteen is used as the divisor. A few tests use eighteen years as the highest chronological age, and a few vary the method of computing the Intelligence Quotient or index of brightness beyond fourteen years of age. An I.Q. of 100 is the average for all ages. While mental ability normally increases gradually up to about mid-adolescence, the degree of intelligence represented by the I.Q. tends to remain relatively constant throughout life. For an adult a percentile rating on a test score is usually preferable to an Intelligence Quotient based upon a mental age since none of the present tests of intelligence gives fully adequate mental age norms for adults of better than normal ability. An I.Q. of 100 is equivalent to a percentile rating of 50 in an unselected group.

People vary in the possession of this capacity we call intelligence all the way from the stage of incompetency designated as idiocy up to the stage of extreme giftedness or genius, with the great majority, as in other traits, ranging between these extremes. Let us take our positions again on the normal probability curve for this trait. If you have secured a percentile rating for your score on an intelligence test, this rating may be used directly to find your approximate position on the normal probability curve on page 66. If you have determined an I.Q. for yourself, check this against the percentiles and corresponding Intelligence Quotients in Table II (page 71), in order to find on the diagram the line which most nearly represents your position on the tournament field for this test.

And now let us consider what to do or *not* to do about your rating. If you are well above average, say in the upper 25 per cent, do not feel cocky or conceited. Your ancestors, not you, are probably responsible, and it will not do you the least bit of good unless you associate it with other desirable traits and use it effectively. If you place somewhere in the middle 50 per cent, be grateful that you may never be tempted to offer the Pharisee's prayer of thanks that you are not like other men. If you find

yourself in the lowest 25 per cent, it will probably be desirable to rationalize about it a bit and question whether your score is correct. (You should never place complete dependence on *one* test score.) If rechecks with other tests place you in approximately the same position, it is suggested that you decide that you never *did* want to be an intellectual genius or any of those queer things, anyway, and that you proceed to look for your stronger points. But also remember that your score may have been lowered by limitations in some few aspects of mental ability rather than all of them.

Table II

APPROXIMATE DISTRIBUTION OF INTELLIGENCE QUOTIENTS ON

NORMAL PROBABILITY CURVE	
Percentiles	Intelligence Quotients
10	85
20	90
30	95
40	98
50	100
60	102
70	105
80	110
90	115

Whatever your position on the curve, bear in mind that sheer chance may cause your test-rating to vary several points in either direction on a second test. And if you took the test without expert assistance, the possibilities of errors in your score are very great. Dr. Truman L. Kelley has emphasized the need for extreme caution in interpreting mental test scores by urging his readers to think of the height above zero of a person in a dozen mental tests as being comparable to the height above the water of the rail of a rolling ocean liner as measured at twelve different times.

We have already considered the relationship between intelligence and school achievement. Tests of thousands of workers in different occupations have shown marked differences in the range and median level of intelligence for widely divergent sorts of work, though there is much overlapping of scores among the various types of workers. Similar results have been obtained by having many judges rate occupations on a scale according to the grade of intelligence which each was believed

to demand.* Such studies have made possible the approximate arrangement of occupations or types of work in hierarchies from the most unskilled requiring very little intelligence to those demanding a very high degree of skill. The wide range of intelligence within any particular occupation complicates the problem of trying to use knowledge about one's own degree of intelligence in vocational planning.

With the present state of our knowledge, information about one's own intelligence level can best be used negatively to determine what occupational fields one should not enter. It has been demonstrated many times that entrance either into work which makes too severe demands upon one's ability or into work which makes too few demands upon one's powers is fairly sure to result in confusion and inability to cope with necessary problems on the one hand, or lack of interest and stimulating challenge on the other hand, together with social uncongeniality. These statements apply to other fields of activity as well as to vocational endeavor.

Intelligence as judged by tests and other objective evidences should never be used as the sole determiner in making decisions about one's activities. While it is an exceedingly important factor, it falls far short of giving us all the information we need about ourselves. Dr. Lewis M. Terman, a leader in this field, says in regard to the use of intelligence tests in educational and vocational guidance:

They do not tell us whether the pupil is more gifted in the scientific or the humanistic studies; whether, in case he leans to science, his ability and interests fit him better for the physical or the biological sciences; whether, in case he leans to the humanities, he is best fitted to succeed in linguistic or creative literary work, in the social studies, or in one of the fine arts. What is perhaps fully as important, the intelligence tests do not tell us anything about the numerous personality traits that influence so profoundly one's success in this or that career.

Recognition of the importance of facility in social relationships has led to interest in measuring what has been called "social intelligence." Tests have been developed to sample the

* The Barr Scale, developed in this manner for use in the study of gifted children conducted by Dr. Lewis M. Terman of Stanford University, is included in the Appendix, pp. 301-304, for your use in checking against proposed vocational choices.

extent of one's ability to judge as to human motives or mental states back of facial expression, the spoken word, or other forms of behavior; to remember names and faces; and to measure the extent of one's social information, etc. "Mechanical" and "clerical" intelligence have been posited by some psychologists. Tests of these different abilities are listed on pages 307-308.

The emphasis at present, however, is upon isolating and measuring many trends of personality which are important in their relative strength and particular combinations in helping to determine the nature of our life adjustments. We shall test ourselves on a few of these trends.

Where do you stand on the *introversion-extroversion* scale? How interested are you in turning the spotlight on yourself and gaining more self-knowledge? It has been suggested that the strength of this interest might be one rough measure of the degree of one's introversion. The introverted person has been described as turning his energies inward, living much within himself and deriving many of his life satisfactions from subjective reflection and daydreaming rather than from active interplay with the outer world. He may prefer solitary activities and he is reserved in the expression of his emotions which may be revealed only partially even to his intimate friends. The extroverted person, on the other hand, tends to turn his energies outward in social contacts. He comes into contact with life eagerly and spontaneously and finds little difficulty in expressing his emotions freely. He usually makes many friends, but may remain relatively ignorant of himself, since he is interested primarily in the outer world.

Wilson and Roosevelt have been characterized as introverted and extroverted respectively, though, as is the case with most individuals, each revealed some evidences of the opposite tendency in his personality. Large numbers of people have been tested or rated for these tendencies and the results have shown a continuous gradation on the normal probability curve from the introvert to the extrovert extreme with the greatest number of individuals in the middle ranges, possessing some of the characteristics of each. Those in the middle ranges have been called ambiverts.

The use of one of the tests for measuring this personality trend would be helpful in giving you insight into your own tendencies in this respect. A list of some of the characteristics

significant in diagnosing a trend toward introversion is given on pages 319-320 and may be used in case you have no objective test at hand. If you check yourself against this list, you will probably find that you possess some of these qualities in varying degrees and do not possess others.

You should not attempt to classify yourself or others in a categorical manner with respect to this trend. But the study of introversion and extroversion has emphasized personality tendencies which are significant to understand and recognize from the viewpoints of vocational, social, and emotional adjustment.

We cannot say today that one who is extremely introverted or extroverted should choose only certain types of work. But we are probably safe in stating that an introverted person will not work with people directing and influencing them so easily or, perhaps, so successfully as one with an extroverted tendency; also that the latter may be discontented and inefficient in many sorts of close, confining work away from people, while some introverts might thoroughly enjoy this work. The extrovert, provided he has other requisite qualities, is more likely than the introvert to achieve leadership in his direct, face-to-face relationships with other people, but the introvert may, if he has the other necessary qualities, achieve intellectual leadership in the field of his vocational activities. Most writers, artists, and scientists are supposed to tend toward introversion. It has been pointed out, however, that some of them are sociable enough, but that their work requires the liking for thought and absorption.

The extroverted person with his greater facility in making friends and establishing satisfying social relationships may have less difficulty than the introverted person in finding outlets for his emotional drives. A danger for the extreme introvert lies in his tendency to repress his emotions instead of finding desirable and satisfying means of self-expression. By turning his energies inward and seeking his satisfactions in his daydreams or his inner mental life, he may so cut himself off from the life about him that he will lose contact with reality and find it impossible to adjust himself successfully in his social relationships. He is likely to have more inner conflicts and emotional tension than the extrovert, and therefore more often becomes neurotic or emotionally unstable. When those with either extreme introver-

tive or extrovertive tendencies break under strain and become mentally ill, some of their symptoms are often exaggerations of their normal tendencies when well. The introvert may shut himself up in the realm of his phantasies and become dead to the outer world, while the extrovert may have so little insight into the sources of his difficulties and so little inner control that he loses his power of normal inhibition and direction of activity. An understanding of dangers at either extreme can help to prevent or overcome them.

The person who is extremely introvertive should see to it that he establishes some satisfying social relationships in which he can find opportunities for self-expression. He may prefer a few intimate friendships to a wide circle of acquaintances, but he should strive consciously to develop real interest in people and the world about him. His interests may be quite different, however, from those of the extrovertive person. One ingenious researcher has used a test of information or gossip to measure introversion-extroversion by determining the degree to which persons were in touch with their human environment or were recluses. How would you rate on such a test?

Introversion or extroversion probably has a basis in heredity, but is, undoubtedly, affected greatly by environment and often varies considerably from time to time according to particular situations and changing moods. There is ample evidence that the tendency can be controlled or redirected somewhat by conscious effort. An extreme trend in either direction, if understood and effectively dealt with, can be turned to good account.

How *dominant* or *submissive* are you? In your face-to-face relationships in everyday life, who usually controls or determines a situation, you or one of your associates? If you tend to dominate, we may call you ascendant; if you tend to yield and adjust your behavior to the control of others, then you are submissive. We vary, of course, in our degree of ascendance or submission with different individuals, but if an average is struck of our behavior among our equals, we may be rated with some assurance at some point on the scale between the two extremes of complete ascendance and complete submission.

The origins of either tendency probably reach far back into our childhood. Physical size or energy on the one hand, or frailty or physical defect on the other, may be predisposing

conditions. Early experiences involving considerable domination by others or opportunity to master or control others probably interact with innate tendencies to determine the direction of the trend. Anything which undermines or strengthens self-confidence may be a conditioning factor.

If you are dominant, or an ascendant person, you are likely to possess some of the following characteristics:

You find it easy to persuade or solicit others, and to say "no" to a request for solicitation; are likely to take a conspicuous place in public gatherings, take initiative in introducing people and directing activities at social functions or elsewhere; are annoyed if you do not secure sufficient opportunity to express yourself in conversation; easily lead a discussion or express your ideas in a group; are self-confident about the worth of your own ideas or plans; tend to insist on having your rights, and may even try to get special privileges sometimes; participate in many activities and become recognized as a leader in numerous groups.

If submissive, you will exhibit the opposite of many of these characteristics. You will tend to keep yourself in the background in public meetings, be reluctant about meeting people, be self-conscious and lacking in confidence about your own ideas or plans. You may hesitate to disagree openly with the views of others, and may make little or no effort to stand up for your rights.

Either extreme of this tendency is likely to be undesirable. If over-dominant, you may antagonize others and thus cut yourself off from enjoyable and valuable associations. If you possess tact and social insight, you may be able to utilize an ascendant tendency in a way to achieve a desirable type of leadership. If over-submissive, you may fail to grapple with your environment sufficiently to make any effective adjustments. If this submissive tendency is combined with a strong degree of introversion, there may be danger of a very unhealthy personality development, leading toward withdrawal from reality. A certain degree of aggressiveness is needed in any healthy personality to meet and overcome difficulties. Intelligent self-direction involves consideration of where and to what degree one should strive to dominate and to exercise leadership and in what respects one should submit to the leadership of others and be a good follower.

How *self-sufficient* are you?

Are you a "lone wolf," a "clinging vine," or do you range somewhere between these two extremes? The lone-wolf type of person exemplifies one extreme degree of this trend toward self-sufficiency, while the clinging-vine or "ivy" type illustrates one of the possible extremes in the other direction. The person who tends rather strongly toward self-sufficiency is not much affected by the approval or disapproval of others, or by their agreement with his ideas or plans. He does not mind being "different" or unconventional, can enjoy either work or recreation by himself, prefers to make his own decisions, usually unaided by advice from others, is willing to bear responsibility alone, and can even become so absorbed in interesting work that he may not miss friendly associations.

A certain degree of self-sufficiency is important for a stable, well-balanced personality. Without it one is swayed by all the shifting forces of chance and change in his surroundings and self-direction becomes impossible. A danger in too great self-sufficiency lies in the fact that we are essentially social beings and depend upon our relationships with others both for adequate life satisfactions and for our best growth. The too self-sufficient person cuts himself off from much of value in life. If strong trends toward both introversion and self-sufficiency are present in the same personality, the dangers of inadequate social adjustments and emotional outlets are increased.

The effective leader in almost any field of endeavor needs a fair degree of self-sufficiency, since, if he is a real leader, he must be ahead of the group and win them over to his point of view. He needs, oftentimes, to stand alone until he has achieved his purpose as leader. Being a leader implies the necessity of followers, however, so that he must not be so self-sufficient that he forgets those he is trying to lead, fails to maintain close and sympathetic contacts with their points of view, or becomes unable to both give and take and to adjust his own views and plans to those of others.

Introversion-extroversion, dominance-submission, and self-sufficiency are important trends in our personalities, not only independently, but, as has been suggested, in their interrelations.* The particular balance and interaction of these

* The Bernreuter Personality Inventory, published by Stanford University, combines measures of these three trends with that of neurotic tendencies which will be considered in a later chapter.

trends, together with many others, will help to determine the nature of many of our important life adjustments. A check on the degree of our tendencies with respect to these trends should give helpful insight into both valuable potentialities and inherent dangers. With this self-knowledge we can plan for the best utilization of socially or vocationally significant trends and for the correction of handicapping or unhealthy tendencies. It should always be borne in mind that these trends can be changed or redirected within limits. Methods will be suggested later.

What are your *attitudes*? Do you tend toward conservatism or radicalism in most of your attitudes on public or personal problems? Do you have settled convictions about many matters or are you open-minded toward new evidence or new points of view? How fair-minded are you in weighing evidence and reaching conclusions on controversial issues? What is your prevailing tendency with respect to attitudes toward yourself? Do you usually underestimate or overestimate your abilities, achievements, mistakes, etc.? How self-critical are you? How critical are you of others?

Our attitudes in all these respects and many more are highly important to understand, since they are strongly motivating factors in determining our behavior and the nature of our life adjustments. They are very difficult to study objectively since they are so intimately related to our emotions, and so often develop without our awareness of the influences which have produced them. We considered earlier how prevailing group attitudes about innumerable aspects of life are imposed on us so early that they come to seem like self-evident truths which should not be questioned. An individual who develops resentment about early domination of some sort by parents, teachers, or others may reject imposed attitudes of any sort and find it impossible to accept any point of view which savors of conformity, imposed authority, or whatever is related to the earlier experiences. These examples are only two of a multitude of complex and oftentimes conflicting influences which may determine the nature of our attitudes. They probably have a basis in our inherited predispositions as well as in our environmental influences. It has been suggested that differences in speed of reaction, in ease of breaking habits, readiness to make snap judgments, or self-sufficiency in the face of majority influence may all help to determine trends toward conservatism

or radicalism. Age and circumstances undoubtedly play an important part also. The change from a youthful liberalism or radicalism to a middle-aged conservatism under conditions of financial success or heavy responsibility can be noted in many lives.

The objective measurement of attitudes is one of the newer phases of personality study, but numerous scales have been developed which are helpful in discovering trends of attitudes concerning many aspects of life which one's own introspection might not reveal. We shall deal briefly with a few such attitudes most significant for self-knowledge and self-direction.

In the interests of self-direction it is important to know your *conservatism-radicalism trends of attitude*. Could your attitudes about economic, social, political, religious, or other public issues be described as reactionary, conservative, neutral, liberal, or radical? These five terms are generally used to designate grades or degrees of opinion about an issue from one end of a scale to another. There are, of course, degrees of variation within each of these categories. We may call one individual "pink" in his views and describe another as "red," but think of both as radicals.

The sources of our attitudes on various issues are often locked so securely in our personalities that we not only may not know why we have them, but may not understand their true nature. We are prone to camouflage many things even to ourselves as well as to others. Even schooling may sometimes have little effect in changing them. Changes have been reported for groups which concentrated on the study and discussion of specific attitudes.

Objective measurement of one's attitudes may often serve as a key to unlock avenues to self-discovery. When our attitudes can thus be brought out in the open and studied, they become subject to our control instead of controlling us.

Fair-mindedness is another important factor in self-determination. It is unwise to ask if you are fair-minded, for none of us would like to reply in the negative, and we are seldom aware of the fact if we are weak in this quality. We often deceive ourselves most effectually in this matter. But the fact that we would not like to label ourselves as unfair-minded is perhaps sufficient evidence of the great value we place upon it for both personal and social welfare.

What are some of the clues which will indicate the presence of prejudices likely to prevent fair-mindedness in our judgments and attitudes? Goodwin Watson, who has made a careful study of this question, has suggested the following:

Do you tend to consider distasteful one side of a controversy?

Do you consider a person incompetent or insincere who disagrees with your views?

Do you draw from given evidence conclusions which support your own bias, but are not justified by all the evidence?

Do you condemn, in a disliked individual or group, activities you might condone or approve in others?

Are you likely to consider both strong and weak arguments as all equally strong if they are in accord with your bias or all weak if in opposition to it?

Do you attribute to all people or objects in a group characteristics which belong to only a portion? For example are all the members of one group "O.K." and of another "N.G."?

Such questions as these, if considered carefully and illustrated in one's own experience, will serve as clues but will not be all-revealing. We may be well-informed and enlightened in general and at the same time be hopelessly prejudiced on a particular subject. When we find ourselves entertaining an opinion which we feel that it would be absurd, undesirable, or even wicked to question, we can feel fairly sure that we have struck a prejudice which needs to be examined. The investigation may result in the overthrow of the opinion, in its establishment on the basis of adequate evidence, or in its tentative retention until more evidence can be secured. The important thing is to be able, without concern as to the outcome, to examine our opinions objectively in the light of all available evidence. The person who would be an effective leader in any field must know where both he himself and others are prejudiced.

Self-attitudes also need examination in the interests of self-direction. Do you have an "inferiority complex" or its opposite? How fairly do you judge yourself? Self-attitudes may range through all the degrees from extreme underestimation to extreme overestimation. We may underestimate ourselves in some things and overestimate in others, though one tendency is likely to dominate more than the other and give a prevailing color to our pictures of self. Robert and Alice, described earlier,

illustrate opposite trends of self-attitudes and suggest some of the handicapping features of either distortion.

Studies have indicated that a large proportion of people suffer from feelings of insecurity, inadequacy, and inferiority. The causes are as varied as our life histories, but common factors appear over and over again. The following are listed merely as suggestive:

Change at some time from a small to a large social group—from a big-frog to a little-frog status—resulting in feelings of insecurity and inadequacy.

Concern or self-consciousness over a real or imagined physical defect, or lack of attractiveness, etc. We all possess some physical defects about which, through frequent exaggeration in our own imagination, we often develop attitudes that are more handicapping than the defects themselves.

Worry over real or imagined personal limitations, or over habits such as masturbation. The latter, which frequently develops for a time in early adolescence, often results in a sense of sin or degradation which may be more undesirable than the habit itself and may even hinder its control.

Particular experiences such as shocks, disappointments, or humiliations. Such experiences are often repressed and forgotten and therefore are not recognized as sources of later difficulties.

Disappointment or chagrin over lack of social success, or the inability to make or keep friends.

Friction or unwholesome attitudes in the home life, which undermine the sense of security or prevent the development of normal self-dependence.

Disadvantages due to race, family, economic conditions, or lack of social opportunities.

Fear or anxiety that external or self-imposed standards of achievement will not be met satisfactorily. This lack of self-confidence may have its roots far back in early experiences which have robbed us of needed self-confidence and imposed a failure pattern. Again it may be the result of unduly high standards held up by parents, friends, or self. Oftentimes a self-imposed standard may be the result of an already existing sense of inferiority which causes a desire to assert and distinguish the self. Inadequate preparation or unsuitable tasks are often contributing factors.

Some traits which are indicative of an *inferiority attitude* are listed on pages 320-321. Dr. Heidbreder, who prepared this list, points out that all of the traits indicate a preoccupation with the self, a desire that it shall excel, anxiety lest it may not do so, and a sensitiveness to everything that concerns its standing.

Self-consciousness, shyness, and fear or anxiety in meeting people or expressing one's ideas are some of the more direct signs of an inferiority attitude. Oftentimes, however, we repress or camouflage our real attitudes, and overcompensate for them by developing an appearance of the opposite sort. This process might be compared to that of whistling in the dark to keep up one's courage. A bold, gruff, boastful, or overconfident manner is often a smoke screen for a sense of inadequacy or inferiority. Enough compensation in the form of simulated self-confidence and aggressiveness to achieve some desired success is a help in overcoming a sense of inferiority, but unpleasant behavior patterns merely antagonize others and hinder achievement.

An all-pervading attitude of superiority seems to be much less common than its opposite, so we shall give it less attention here. If you habitually feel superior to all the people with whom you associate, it would be well to try to check carefully upon your actual achievement and your effect upon others, also to seek for some associates who can engage you in severe competition of some sort. The over-superior attitude may ultimately be more handicapping in the maintenance of harmonious and satisfying social relationships than its opposite. A sense of inferiority can be overcome by achievement.

Our attitudes toward others are profoundly affected by our self-attitudes. The distortion of self-attitudes toward either the superiority or inferiority end of the scale may result in an unduly critical attitude with respect to others. The superior-feeling person can always detect in others flaws which he himself does not possess. The inferior-feeling person may, because of his exaggeration of his handicaps, be on the lookout for them in others, or imagine their presence. If we find ourselves perpetually critical of other people in certain respects or imputing undesirable motives to them, it is well to turn the spotlight on ourselves and see what flaws there need to be detected and eliminated.

We shall use the *trait-rating* game for some significant traits which cannot be measured today by objective tests or inven-

tories. Trait rating is quite widely used in educational institutions as one basis for judging students, and it is also used by many employers and employment bureaus. It may well serve as one approach to the problem of self-analysis, though, when so used, the possibilities for error should be clearly recognized. It would be valuable to discover upon what traits one may be rated by others, and compare self-rating on these traits with the ratings of others who know one sufficiently well to be competent judges. Experiments have shown that it is more difficult to rate one's self accurately than it is to rate others.

Another difficulty with this trait-rating game is that we vary from time to time and from group to group in the ways in which we display our traits. As a result, people who know us in different capacities may rate us very differently. Also we all tend at times to disguise or cover up our real selves. Again those who play the part of judges may vary in their understandings of the traits and may be influenced unconsciously by the way they feel toward the person being rated. Because of these difficulties encountered in playing the game fairly, authorities recommend the use of averages of several ratings if the results are to be used for self-study.

A rating scale which can be used in playing this game is given on pages 321-323. In rating yourself or others on such a scale, it would be desirable to list for each trait instances that support your judgment, also any instances which may be inconsistent with the general rating of a trait. This will tend to make the rating more objective and also much more useful as an aid to self-understanding and for the direction of personality trends and traits. It is always possible to make up new rating scales for traits upon which you wish to be rated, and these scales may be used for interesting parlor games with one's friends.

PERSONAL INVENTORY

Perhaps you would like to check a score card on the testing and rating games you have played. To do this for the tests you should have all your scores expressed in similar terms such as percentiles which would indicate your ranks within representative groups of 100 members. Assuming that your scores are all in this form, you can chart them in the following manner:

In a cross-section graph such as the one below, enter on the vertical lines provided at the bottom of the chart the names of the character-

istics tested. For each trait place on the vertical line an x at the point which represents your percentile score. Connect the x 's to make your curve of distribution.

After charting your scores, it would be valuable to write in your diary a brief discussion of the following questions:

Which are your very strong traits?

Which are your very weak traits?

Do any combinations of weak, strong, or average tendencies suggest possibilities or assets in your personality for healthy, happy adjustments in life?

100
90
80
70
60
50
40
30
20
10
0

Percentile Scores

Enter names of aptitudes, abilities, and personality trends and traits here

Now would you like to sketch your profile for the trait rating? You can do it as follows:*

Use a form such as that below, entering for each trait an x on the line at the point at which the number of the space corresponds with the number checked on your rating scale. Then connect the x 's for your profile.

It would be interesting to plot one profile of your own ratings of self and another of the average of others' rating of you, comparing the two sets of ratings and considering differences from the following points of view:

* Adapted from materials prepared in collaboration with Dr. Harold C. Hand, Assistant Professor of Education, Stanford University, California.

Possibility of your own lack of insight about your personal characteristics.

Possibilities of lack of insight by other raters.

Causes of variability in your behavior.

MY PROFILE

Radical	Very tol- erant	Feel inferior	Sought by others	Seek addi- tional tasks	Make things go	Unusual balance	Well-formed objectives
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Reaction- ary	Intol- erant	Feel superior	Avoided by others	Need much prodding	Unable to lead	Unrespon- sive or too easily moved	Aimless trifler
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Chapter Eight

THE HALL OF MEMORIES

RECALLING OUR PAST

We have chosen to visit the Hall of Memories following the tournament because we anticipated that we would all be ready for a quiet time of relaxation and meditation. This Hall of Memories is dimly lighted and we can slip into easy chairs, forget the presence of others, and rest while our interpreter chats with us about what to look for here and how to interpret our findings. When he has finished, we shall be free to wander wherever our fancy leads us. We may, perchance, encounter many locked doors or barricaded passages, and we may need a special guide to assist us in penetrating some of these barriers and in reaching the regions we wish to explore. But now our interpreter is here.

Each of us has a past, a present, and a future. Just as with groups studied in history, it is necessary to know our past to understand ourselves in the present, and to foresee possible future trends. Through the reconstruction of as much of our past experience as we can recall or learn from others, and through introspective observation of our present reactions, we may learn much about ourselves, provided we understand what are the significant things in experience to look for and can, when we find them, interpret them in terms of our motives, purposes, or drives.

This method of getting acquainted with self involves many difficulties. One of the chief of these is that memory fails to function effectively for many significant experiences. Very few of us remember much about our first few years of life, and these years are very important in the establishment of our personality trends. Also, we often tend to repress or push out of our conscious memory experiences which have been painful or unpleasant, and to retain and perhaps embellish the memory of those experiences which have been pleasant or joyous. We have much proof that these experiences which apparently have been

"forgotten" are not actually lost, but continue to influence our feeling, thinking, and acting in ways of which we are unaware.

William Ellery Leonard in his autobiographical study entitled *Locomotive-God* made a thorough and systematic attempt to reconstruct his past experiences from early childhood on in order to understand an obsessive fear which had come to dominate his whole life and prevent normal and effective living. He found the starting point in an experience at about two and one half years of age, when he was startled by a locomotive at a railway station. Other experiences throughout many years, which had become involved with his forgotten reaction to this early fright, resulted in the development of an overpowering fear which caused him much suffering and unhappiness. All of us are, undoubtedly, affected continuously by a multitude of forgotten past experiences, some of which affect us in desirable, and others in undesirable, ways.

Many memories which we have lost from consciousness may be readily recalled by effort or an appropriate stimulus, but others do not seem to come at will. We may struggle to recall a word or name or fact and secure no clue or response. We may forget to pay a bill or to keep an appointment. In many of these types of forgetting and failure to recall we can often discover some conflict of motives or desires, or some unpleasant emotional association which tends to keep the memories from consciousness. The term unconscious is used in psychoanalysis to connote those aspects of the mental life which either never were in consciousness or, previously in consciousness, have been repressed and cannot be recalled at will.

The term unconscious has been applied also to automatic and habitual action which is performed without our awareness unless something unusual calls it to our attention. We are normally unaware of our bodily processes of respiration, circulation, and digestion, and of many of our daily routine actions, such as walking, dressing, etc. Try to recall which shoe you put on first and you will probably discover that this daily act is to a large extent unconscious. It has been demonstrated that the movements of the left hand (in right-handed persons) are remembered better than those of the more automatized right hand. When we are asleep or under the influence of an anesthetic, we are also said to be unconscious.

Some psychologists use the term subconscious to apply to any activity which may not be designated as conscious, and we shall use the word subconscious in this sense.

In addition to automatized activities and apparently forgotten experiences, we have vague, not clearly recognized or fully acknowledged thoughts, desires, and sensations. These involve chiefly instinctive drives, emotions, and uncontrolled thinking, as opposed to the consciously directed rational processes. In periods of day-dreaming, reverie, and in our dreams during sleep these activities predominate. Much of what is recalled from these experiences may seem strange or foreign to us. Much of it tends to be symbolical.

These tendencies have been explained by Freud through the concepts of a repression and a censor mechanism. According to these concepts an unpleasant experience or a thought or wish unacceptable in our conscious life because of acquired standards or ideals may be so completely repressed or pushed out of consciousness that it is apparently forgotten, never to be recalled; but it may appear later in a changed or disguised form which allows it to get by the "censor" and enter consciousness again. For example, the wish that some person would die may come to mind, but horror at the thought of entertaining such a wish may cause it to be repressed and kept out of consciousness. In place of the former wish there may develop an unexplained fear that the person may die. This might seem unexplainable or a premonition if the earlier experience were never associated with it. A repressed sense of guilt regarding some socially undesirable behavior may cause someone to become a rabid social reformer without being aware of the original cause of the drive for reforming others.

This return to consciousness of a repressed idea or wish in a disguised form may be accounted for on the basis of the energy which is associated with any drive to action. When an urge which cannot be directly expressed is not recognized and consciously controlled in a way to direct the energy into other channels, the energy remains attached to the repressed urge and often finds new outlets which will be acceptable in the conscious life of the individual. The sex drives are often involved in this mechanism because of the feelings of shame or guilt which have become associated with them as a result of the taboos and restrictions of society with reference to their

expression. The problem with this or any other urge is that of recognizing it and consciously controlling and directing it, rather than repressing it in a way to remove it from rational control. Many forms of bizarre or unexplainable conduct may result from the failure to establish this rational control.

Alfred Adler and his followers of the so-called Individual school of psychology explain personality trends and behavior largely on the basis of patterns developed early in childhood, when a sense of inadequacy or inferiority tends naturally to develop out of the helplessness and dependence of that period. They believe that a goal of life motivated by a natural craving for superiority or recognition of some sort is established as the result of this early feeling of inadequacy, and that later trends can be understood and directed only as this early goal or pattern of life is understood. Specific behavior patterns are interpreted as the result of efforts to compensate for the sense of inadequacy by achieving some sort of recognition or superiority. The sources of this feeling of inferiority may be numerous. We may be totally unaware of the real causes of the motives and goals which determine our behavior, because the foundations for them may have been laid before our critical faculties were sufficiently developed to enable us to understand them.

The forms of compensation which may develop are as varied as we human beings and our experiences. One child who is frail and unable to adjust himself successfully in his play activities may strive for excellence and recognition in his studies; another may set up vocational goals which will bring him into a position of power and authority; still another may secure his satisfactions through unsocial and perhaps ultimately criminal activities. A physically unattractive child may become a recluse denying the worth-whileness of social relationships, or may, perhaps, develop an unusually pleasing personality which minimizes the physical disadvantage. Approached from the viewpoint of the Individual psychologist, the important problems of self-discovery and self-direction are those of understanding the subconscious influences which have their sources in earlier experiences, determining to what extent a sense of inadequacy may be the result of distortions or exaggerations, and consciously developing worth-while and satisfying compensations for any apparent limitations.

Whatever the exact explanation of the process may be, there is a continuous interaction between conscious and subconscious activities in myriad ways which help to determine our likes and dislikes, our loves and hates, our ambitions, our fears, worries, and conflicts, our actions and inhibitions. Only by understanding this interaction can we truly understand ourselves. Failure to note the repression of desires and unpleasant experiences and to find adequate and socially desirable outlets or substitutes for strong conflicting drives are common causes of unhappiness, ineffective living, and both physical and mental ill health.

Psychoanalysts and mental hygienists have developed techniques for exploring the subconscious by utilizing our reverie, dreams, and association processes, and have by these means been able to reconstruct experiences and discover influences which might not otherwise have been brought to light. Many of the interpretations of the findings of psychoanalysts are still in the realm of unscientific guessing and imagination, but leaders in this field have accumulated considerable information about the significant influence of forgotten past experiences, and have helped many to achieve better self-understanding and to avoid or recover from serious mental ill health.

How much understanding of past influences and subconscious trends can be achieved by personal study depends to a large extent upon how much wisely directed time and effort we invest, how objectively and impersonally we can approach the study, and how honest and courageous we can be in looking ourselves squarely in the face and recognizing both desirable and undesirable tendencies. Some would claim that very little insight into subconscious trends could be achieved without the aid of an expert psychiatrist or psychoanalyst. However, very few can afford this service, and mental hygienists have found the autobiographical method valuable for self-study when properly directed and not allowed to degenerate into morbid introspection or superficial rationalization.

In making such a study, it is important to check over our findings, if possible, with someone familiar with the psychology of personality and the principles of mental hygiene; if evidences of serious maladjustment seem to be present, consultation with a psychiatrist or clinical psychologist may often save

much future trouble. However, we all have imperfections in our personalities and they need not cause concern unless they loom very large, and if they seem to, we should be sure we are not magnifying them. An accurate perspective is extremely difficult to achieve in studying self. A basic point of view which should always be kept in mind is that we are all in a process of *becoming* and that our status at any given time is relatively unimportant as compared with what we are becoming.

We are concerned here not only with those past experiences which might result in ineffectiveness, unhappiness, or mental ill health, but also with those which will give clues to native tendencies, basic interests, and developing trends and aptitudes. Such a foundation of self-knowledge, supplemented by the information from objective tests and the judgments of those who know us best, should give us a sound basis upon which to proceed in planning the sort of lives which we wish to achieve. Complete or thorough understanding of self cannot be expected from such a study. Only the tests of actual experience throughout a lifetime may give us that, and many go through life blindfolded from themselves and gain but little insight from their experiences.

The best we can hope for is to become better acquainted with our building materials, thus preparing for more intelligent building in the future. Unfortunately our knowledge of the human personality is at present too fragmentary to allow of a thoroughly systematic study. We can only attempt to utilize what knowledge and techniques are available today.

Time has been reserved at this point for each of us to wander about in this vast Hall of Memories and to make a beginning in mapping out a personal tour of the past. We shall take this part of our journey in a leisurely fashion for the past does not reveal its secrets to us when we are in a hurried mood. We may wish to return to the Hall of Memories many times during our free moments. Suggestions for directing meditations are given below. In making this suggested inventory, bear in mind that many of your recollections may be distorted and unreliable.

Assume that you are preparing to write an autobiography which will reveal the important influences in your life that have helped to make you what you are today. Spend a few minutes each day for several days thinking over your past

life. Note and jot down the very earliest experiences you can recall. Discuss these memories with relatives and friends. Jot down recollections of friends, interests, and experiences at home, in school, and outside of home and school at different periods in your life, such as those marked by pre-school days, kindergarten and elementary grades, junior or senior high school, college, and after-school years. In recalling specific incidents, beginning with the earliest you can recall, note your emotional tone as you are thinking about each, also other things that come to mind as you are thinking about each incident. Try to account for these associations in memory.

After this preliminary period of recollections, it is suggested that you check over the points listed below and write down your memories about past conditions and experiences under three headings: first, during childhood; second, during early adolescence; third, in recent years.

Material and cultural environment: Note comforts, luxuries, bare necessities or lack of them, adequate or inadequate food, extent of cultural advantages, such as books, periodicals, music, art, theaters, extent of opportunity for wholesome play and recreation.

Relationships with parents: Note apparent attitudes of mother and father toward yourself such as over-solicitude, deep interest, little concern, or indifference; type of discipline, as strict, domineering, emotional, rational, encouraging self-dependence, overindulgent, etc.; degree of affection evidenced and how exhibited; disposition of parents, as even, unstable, cheerful, irritable, depressed; attitude of self toward parents, as worship, desire to sacrifice, annoyance, bitterness, dependence, rebellion; extent of confidences and companionship with parents.

Relationships with brothers and sisters: Note any comparisons of abilities, appearance, or achievements of brothers or sisters with those of self; amount of affection, companionship, competition, jealousy, or friction; any tendencies of parents to favor others above self or vice versa; position and status of self in the family group.

Relationships with others outside of the home: Note degree of success in making friends and getting along with others; relative age of friends; attitude of self toward others, as aggressive, submissive, deeply interested, indifferent; status in groups,

as accepted, ignored, teased, etc.; number and closeness of friends; types of persons chosen as friends.

Religion and ethical standards: Note both your own and your parents' attitudes toward and degree of interest in religion; any differences of attitude between yourself and your parents; your own lack or consciousness of religious experience or of need for religious security; conscientiousness, sense of sin or guilt, prejudice, open-mindedness, or tolerance; any conflicts over moral standards, or new concepts about life.

Friends and associates: Think of one or more of your most intimate friends and closest associates at different periods in your life. List the outstanding characteristics of each friend; why you liked him or associated with him; why you think each one liked you or associated with you; how you think each one influenced you.

Ideals and aspirations: Describe briefly any people whom you idealized or worshiped at different times and indicate how you think they influenced you; also list ambitions or strong desires which motivated you at different times.

Significant experiences: Describe briefly the experiences which you think have had the most lasting influence in your life and suggest how you think they may have affected you. Include achievements, failures, love affairs, and any especially happy or unhappy experiences. Give attention to seemingly insignificant episodes, if in attempting to recall past experiences these episodes are frequently recalled, or if, on the other hand, you note a tendency to repress them.

Now you may wish to check over your notations under the headings above to determine which influences in your life seem to you to have been desirable and which undesirable. If you summarize these in separate columns, it will help to clarify the picture of your past and give you a starting point for considering more in detail how you may wish to control or modify these influences.

How may we control undesirable influences in our environment? For each undesirable influence in your environment consider the desirability or possibility of controlling it by any of the following methods:

Remove the undesirable influence by getting out of it, cutting off certain associates, etc.

life. Note and jot down the very earliest experiences you can recall. Discuss these memories with relatives and friends. Jot down recollections of friends, interests, and experiences at home, in school, and outside of home and school at different periods in your life, such as those marked by pre-school days, kindergarten and elementary grades, junior or senior high school, college, and after-school years. In recalling specific incidents, beginning with the earliest you can recall, note your emotional tone as you are thinking about each, also other things that come to mind as you are thinking about each incident. Try to account for these associations in memory.

After this preliminary period of recollections, it is suggested that you check over the points listed below and write down your memories about past conditions and experiences under three headings: first, during childhood; second, during early adolescence; third, in recent years.

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Remove the undesirable influence by getting out of it, cutting off certain associates, etc.

Build up barriers to an influence which cannot be avoided, *e.g.*, not reacting to it.

Control the influence by the way you react to a situation, so that it may even be turned to good account.

Consider possible undesirable, as well as desirable, results of each method. For example, might the removal of an undesirable influence involve cutting off one's self from certain favorable influences which were an inseparable part of the eliminated environment? Or might the building up of mental barriers against a certain set of influences tend to establish an unfortunate habit which, if persisted in, would hamper growth?

As a practical aid in self-direction, it is important to remember that *how* one *reacts* to an experience is more important than *what happens* to one.

Chapter Nine

THE NURSERY

DISCOVERING OUR INFANTILISMS

Now are you ready for some good fun? We are going to visit the nursery to watch the children play. "But," I hear you protest, "I am exploring my own personality, and I left my nursery days behind long ago." Well, we won't press that point, but we urge you to join us on this side trip, for we think you will enjoy the experience.

Let us enter the anteroom quietly and take our positions at the peep holes through which we may observe the children at their natural play without attracting their attention.

Oh! Oh! Commotion at the very start! Harry over there on the right is having one of his temper tantrums. Watch him stamp his foot and throw his toy on the floor. And now he goes down himself in a screaming rage. What has happened? I don't know this time, but he always stages a scene when he fails to have his own way. He discovered when very young that these tactics worked with his fond parents and he has become proficient in their use. Did you notice he stopped screaming long enough to look at the nurse? But the nurse is apparently wise to Harry, for she is paying no attention to the commotion. What will you wager that Harry overcomes this habit if he stays here long enough?

Robert, the boy sulking over there in the corner, is a similar problem. Apparently something has gone wrong. Perhaps the other children, who are leaving him severely alone now, wouldn't play the game he wanted to play. Robert is almost always "agin" anything the others want to do and usually has his own rules for any game.

What is that boy doing over there with his back to that group of children? Oh, yes, that's Jack. He has appropriated the toy railroad and is trying to play with it all by himself. Funny, isn't it? Soon he will tire of the railroad, and he could

have so much more fun sharing it with the others who want to play with it too.

See what an ingenious castle those two youngsters on the floor are building. Hold on! What's the matter? Billy and Tommy both want to use the same block, though there are plenty more around them. "Mine! Mine!" both exclaim, struggling for the block. Down goes the whole castle that they had built up with such care.

Do look at that cute couple strutting across the room. Jane, dressed in such bizarre looking clothes, is watching out of the corner of her eye to see if she is attracting attention. Would you believe it? She has daubed her fingernails with some of that bright red paint from her paint box. Johnny is certainly puffing out his chest, and apparently he is boasting about something he has done, something very brave!

Ouch! Archie got a hard scratch just then when he pulled Tabby's tail. Good for Tabby! Perhaps she will teach him a lesson. Archie is always teasing or hurting some of the children or saying mean things to make them cry. He was bullied and hurt when a baby and, since coming to the nursery, has vented his injured feelings on the others.

Hello, that's funny! That statue on the stage is moving now. Yes, that's Gwendolyn. She is always posing, and is extremely jealous if anyone else is chosen for the lead in a play. The other children, tired of her selfishness, have left her alone and are now playing a jolly game together. She is just awakening to the fact that there is no make-believe play.

Here is a newcomer loitering by the door. That's Edward, and he is making a wry face while the nurse speaks to him. Evidently it's his turn to water the window-box plants. He has come late and is putting off the task as long as possible. If he doesn't hurry, he will miss all the fun.

We can remain only a little longer, but I want you to notice some children who appear much older than the others. See that boy gazing at himself in the mirror. The nurse tells me that he does this very often. He reminds me of Narcissus, who was fascinated by his reflection in the well. Do you suppose Ned looks in the mirror so much because he loves himself?

That quaint-looking little girl over here in the rocking chair? She looks like a child in a medieval painting, doesn't she? That's Sydney, about whom the guide will tell us later.

But here are Harriet and Madge, who almost always have their arms about each other. Harriet looks a bit like a tomboy, and Madge acts as though she has a school-girl crush on Harriet. And here is Herbert, a strange infant! He looks old enough to be in his twenties—and he seems to be interested in a doll!

These are queer playfellows for the infants we first observed. Let's ask the guide to solve the riddle for us.

You ask why these older folk are in the nursery? You have been deceived by a strange optical illusion as are most people who come here. As a matter of fact some of those whom you observed first are older than those you have just noticed. All are full-grown people who have retained some of their childish habits. Shall we take some easy chairs while we attempt to learn more about them?

Some of you asked about Sydney whom you described as "a quaint little girl." No wonder she looked quaint in the nursery. She is actually a young woman in her thirties, an only child who has never freed herself from dependence on her mother for the supplying of her physical needs and comforts. Her mother still chooses and makes her clothing, cleans and keeps it in condition, and spends practically all the rest of her time preparing and serving her daughter's meals and waiting on her in innumerable ways. A new-born infant would have no more attention than this young woman receives.

Sydney broke a marriage engagement a few years ago because she could not accept her fiance's criticism of her unwillingness to adapt herself to certain aspects of his social life. She readily admits now that one of her chief sources of satisfaction in life lies in her mother's caring for her creature comforts. Possessing excellent mental ability, she nearly completed the work for her Ph. D. degree which she has never secured because of unwillingness to meet one of the requirements.

In her home life her adjustment is essentially that of an infant or child. In her professional life as a teacher she identifies herself with the adolescent young people with whom she works and enters enthusiastically into their interests and activities. Outside of her work, her chief interest is her college sorority which retains for her the same prominent position it occupied in her college years. She has never really grown up. A difficulty encountered in her work or an imagined slight by a friend

or acquaintance may cause a profound emotional upset which sometimes results at home in a childish temper tantrum similar to the one which Harry staged. For Sydney religion serves as an escape from some of her conflicts, but it is essentially an adolescent experience which does not help her to face and solve her problems.

It is to be hoped that her experiences here in the nursery will lead her to recognize the childish nature of her satisfactions and will give her the opportunity for gaining satisfactions from more important matters, so that she will not mind sacrificing some of her physical comforts. She will never grow up until she has developed real interest in something bigger than herself.

About Herbert who was interested in the doll? That's a long story and we should probably consider several aspects of our human development before we attempt to understand Herbert. Our discussion may also help to explain some other situations you observed.

It is a matter of common observation that we human beings pass through certain fairly well-defined stages of development, each of which is characterized for all of us by sufficiently similar interests and activities to warrant calling it a period of life. Shakespeare visualized these periods as the seven ages in his well-known description of the progression of parts played by man in the shifting drama of life.

Any division of our life span into periods is somewhat artificial since growth, or at least change, is continuous, and one so-called "period" in life usually shades almost imperceptibly into the next. Growth also varies in rate at different ages and with different individuals, so that no hard and fast classification of stages of growth can be set up and applied to any one of us as a means of determining our stage of development. However, conditions, interests, attitudes, or behavior, distinctly characteristic of one period and very desirable then, may be highly unsuited to a later period and cause maladjustment if carried over. So it is important for each of us to be sure that we are changing rapidly enough to play our parts effectively in each succeeding act of life's swiftly moving drama.

We are all amused, doubtless, at the thought of a young man in his twenties, like Herbert, being interested in a doll. Yet it is safe to say that many of us who would ridicule this obviously childish interest in toys, have retained equally

childish attitudes and behavior patterns which we have camouflaged unconsciously in a way to deceive both ourselves and others. We are, to a large extent, creatures of habit and become attached to the comfort and security of our old ways. We often prefer the certainty of the old to the uncertainty of the new, and so, unless we are unceremoniously pushed out of the old ways, we sometimes cling to them and carry them on into the new scene where they may serve as a heavy encumbrance and a hindrance to the appropriate action. It is quite as disastrous, of course, to discard the old ways before we are through with them and thus skip over a scene or act in life's drama.

We might carry the comparison of life to a drama still further and compare our developing life histories to the plots of plays. One scene or act left out may prevent suitable participation in what follows. If one were passively observing a performance in a theater, such an omission would be confusing and dissatisfying, but not overwhelming. In real life, however, we are all not only in the position of the audience watching the plot develop, but are also the players themselves. Unlike the carefully prepared performance in the theater, the plot and action cannot be minutely planned out in advance. The playing is largely impromptu, a continuous performance with the actors shifting and changing. If one of the actors misses a scene or fails to note the change from one scene or act to the next, he is very likely to become so confused that he misses his cues, tangles up the plot, and becomes not only a useless, but perhaps a disturbing, factor, and may have to be withdrawn from action. In order to prevent such difficulties, we should all understand enough about these periods of life or acts in the drama to know when we have entered each and what in general should be expected of us in each.

What are some problems and pitfalls of the periods of infancy and childhood?

Adjustments made during the first few years of life are of tremendous importance in determining our later trends of development. The careful attention to physical needs in this early period, combined with a normal amount of parental affection, seems necessary for an effective start on the life journey. Lack of proper food or unhygienic conditions may cause the child to be physically handicapped throughout his

entire lifetime. Failure to receive a normal amount of parental affection may starve and hamper his emotional life and cause him much difficulty and unhappiness in his later relations with others. On the other hand, an undue amount of affection showered on him by parents, who are often thus compensating for their own unsatisfactory relationships with each other, may prevent his growing up emotionally and transferring some of his affection to others. In the same manner concern for the well-being of the child may cause a parent to continue to care for his various physical needs long after he has become able to care for himself, and thus prevent his gradually developing the self-dependence which is basic for his success and happiness in later life.

As long as the infant is pampered and fussed over, he will usually accept the situation and even learn to turn it to good account in ways not contemplated or intended by his parents. He may early discover that crying or temper tantrums will frighten his fond but foolish parents into satisfying his demands; that responsibility for his unsuccessful combats with his environment may be placed upon objects, conditions, or other persons, and that unpleasant or difficult tasks may be avoided by cajolery, illness, sulking, or open defiance. Such behavior patterns developed to control the environment for selfish interests and to escape facing and grappling with real situations may continue into adult life and act like a millstone around the victim's neck, preventing him from attacking his life problems effectively and working out satisfactory social adjustments.

Real consciousness of himself, as an individual apart from but interrelated with other individuals, comes to the youngster slowly and is usually expressed at first through his identification of himself with his toys or various possessions. "My blocks," or "mine, *mine*," exclaimed when a brother or sister appropriates some desired object, is early evidence of the developing consciousness of self. Resentment often shown toward a new baby who is claiming the attention and care which was formerly his gives evidence of the struggle which comes when the need for sharing with others arises.

The shared give and take among parents and children in the home afford the opportunity for the beginnings of development out of the self-centered dependence of babyhood into the self-

conscious interdependence of childhood and adolescence, and finally into the social consciousness and relative self-dependence of the satisfactory adult life. Out of the conflicts of interests, the mutual interests, and the shared activity of the family group emerge a stronger self-consciousness and a larger self. To "me" is now added the concept of "we." Out of this family fellowship may develop types of conduct embodying the ideals of cooperation, kindness, loyalty, lawfulness, justice, fair play, and individual freedom, or on the other hand those of selfishness, unlawfulness, and unfairness.

Many examples can be found among so-called adults of those who, like Sydney, have remained upon a childish level with respect to physical comforts or social interests and adjustments. Jack with his selfish appropriation of the toy railroad, Tommy and Billy fighting over a block, and Gwendolyn with her jealousy and unhappiness when not occupying the center of the stage are not uncommon figures in adult life. The person who is uncooperative, selfish, or jealous has never reached the stage of shared give and take which should be attained early in childhood. Again, the person who has never been forced to make decisions for himself and abide by the results of his decisions has failed to reach grown-up levels.

In childhood our environment expands to include the school and wider play groups, and we are faced with more varied and complex problems of adjustment. We must adjust to many personalities in the schoolroom and on the playground, and we are faced also with the challenging task of mastering the skills which will enable us to quarry riches from the mine of our social heritage, out of which we can hew building materials for the superstructure of our lives. This presents another critical period in our intellectual and social development. Undesirable or handicapping behavior tendencies already developed in the home may become intensified, if not overcome or redirected, and attitudes of inferiority are likely to develop if the adjustments are not made successfully. Many with adequate intelligence have carried through life an aversion to study or a sense of inadequacy and inferiority because of unfortunate experiences in early school life. Often, as a result, a compensatory attitude unconsciously develops which involves disdain for intellectual interests and activities and rejects them as impracticable and remote from actual life.

In the play activities of this period the interest in the manipulation of toys, characteristic of infancy, is largely replaced by interest in group activities. There is no more compelling authority in the life of the child than that of the play group, and the individual who, because of physical disability, especially if a boy, or because of disabling behavior tendencies, has not engaged in this group life successfully may become warped in his personality in some ways. Identification with the interests and activities of these play groups affords an important means of self-expansion and self-development, and the child who misses this opportunity often turns his energies inward, loses touch with objective reality, and becomes introverted and self-centered. In the social contacts of these play groups are developed traits of aggressiveness or submission, qualities of leadership or followership and of cooperation, as well as many other traits which influence the trends and activities of later life.

Hero worship is an outstanding characteristic of later childhood and youth, and the emulation of the traits of the men and women thus idealized is an important factor in determining the trends of self-development. At this age the boys are likely to choose men, and girls women, as their idols. In the normal course of development some of the parental affection developed in infancy is transferred to chums and associates of the same sex and often to older men and women. The companionship of one's own sex is an urgent need at this period, but if it persists unchanged into the adolescent period, when interest in the opposite sex normally develops, it becomes a handicap.

What is the significance of adolescence?

This period is characterized by the development of new interests, new emotions, new powers and activities, an intensified self-consciousness, and an expanded and heightened social consciousness. During the early years of the period, the internal secretions from the sex glands are beginning to be introduced into the system, and, together with the secretions from the other endocrine glands in a reorganized balance, are instrumental in causing many of the physical and mental changes which are evolving the man or woman out of the child. Profound changes in the mental life occur, manifesting themselves in increased masculinity or femininity of personality traits.

During adolescence the emotional life is intensified and deepened and the intellectual interests are broadened. The power of abstract thinking increases and the normal adolescent becomes interested in knowing and thinking about the problems of the world and of life. Deep concern about problems of religion and philosophy often develops at this time. The problem of choosing a vocation or life work presents itself seriously for the first time. Interest in members of the opposite sex develops—a stage preparatory to the choice of a mate and the establishment of a home. Social interests are widened, and altruism and social consciousness tend to replace much of the self-centered individualism of childhood. In recreation or play, cooperative activities calling for teamwork and the identification of self with a group tend to replace the individualistic and competitive play of earlier years. There is an expansion of the self in this larger life and an intensification of self-consciousness on a higher plane which form the basis for the fuller development of latent powers and the richer development of the personality.

A striving for independence of action is characteristic of adolescence, and many of its struggles and maladjustments are the result of the attempt to sever the bonds of authority and control established in childhood and to develop the self-dependence and greater liberty of action of the adult. Some of the pitfalls of this period are associated on the one hand with attempts to achieve independence without adequate perspective and experience, and on the other hand with too little self-dependence to cope successfully with new opportunities and responsibilities. The first tendency often results in a childish reaction against all authority and in childish attempts to prove one's grown-up status. The person who fails to develop sufficient self-dependence in adolescence may show fewer immediate evidences of maladjustment, but may encounter many pitfalls in adult life.

The adolescent period is one in which adjustments and reorientation are being effected on a new level, that of adult life, and it is, therefore, a critical time. The adolescent is the product of his years of infancy and childhood, and carries over into this stage of his life a multitude of behavior patterns which he has developed in childhood. However, his personality is still extremely plastic and is being molded for better or worse along

lines which will determine the nature and direction of his adult life.

What does it mean to be an adult?

The urge toward independence and the desire to be recognized as grown up are normal characteristics of adolescence. But the ability to foresee consequences of actions, the development of worthy standards of value against which to check courses of action, and the willingness and courage to face the results of chosen activities do not necessarily keep pace with the urge toward independence. Adolescence is a period of transition in which one should be gradually developing skill in making life adjustments on an adult basis. Like any other skill, it requires time, practice, and patience to perfect. Since it is the most complicated and difficult skill that human beings are called upon to develop, the wise adolescent will not attempt to exercise, in any important field of human activity, a degree of independence not commensurate with his grasp of the social heritage of human experience in that field. Neither will he be content to remain in a state of childish dependence. A forced bloom or a retarded bud is as undesirable in the human as in the plant realm.

The best test of whether one has achieved a grown-up status is the willingness and ability to face the consequences, pleasant or unpleasant, of self-determined conduct. The ability to analyze situations and secure the necessary understanding to foresee the possible consequences of various alternatives of action develops slowly through experience. With our limited human understanding conduct must often involve a leap in the dark or a blind groping for light. He who is truly adult must have a workable and growing philosophy of life against which to check his conduct, fairly stable work and play habits which will prevent his becoming overburdened with decisions, and a fair degree of economic independence. These requisites for adulthood develop later than the adolescent urge for self-direction and should serve as balancing and often as deterrent factors before experience and background are sufficient to afford clear-cut but growing viewpoints about life. *Adult status like other worth-while things must be earned.*

The attainment of adult status does not insure its maintenance. Life is a continuous process of *becoming* and involves

continuous readjustment and change. Failure to readjust one's self to changing conditions may result in as ineffectual living as the retention of older infantile behavior patterns. The habit of change should be established as the core of an orderly system of habits.

Oftentimes a shock, disappointment, or painful experience may prove too severe a test of one's power of adjustment and may throw one back into earlier types of adjustment. Extreme illustrations of such conditions are found in clinical histories of many mental patients. Case histories record loss of speech due to shock, or reversion to childish prattle and play as the result of a disappointment in love or a severe fright. Where the regression is not so extreme, it may be expressed in many less obvious sorts of childish reactions. The procrastinating Edward illustrates this tendency. The habitual postponing of a hard or unpleasant task with always some "good excuse" for not doing it, self-indulgence of various sorts, uncertainty and indecision when judgments should be made, or emotional upset over trivial matters are a few of the more common types of regression which we can recognize frequently in ourselves or our friends. Regression is often expressed indirectly in physical symptoms of various sorts which bring to the person attention which he has failed to secure in other ways. Exhibitionism, which may be manifested in bizarre conduct, unusual attention to dress, and various efforts to be in the limelight, is another common type of childish regression.

This tendency toward regression to earlier forms of behavior is due to one's inability to make satisfactory adjustments and thus find outlets for strong drives or urges. Solution of the problem rests in frankly facing the situation and finding suitable outlets which will be both worth while and satisfying.

What are some of the pitfalls in the development of the emotions?

Since *love* is one of the most complex emotions experienced by human beings, its development is subject to many deviations. It is a motive force behind some of our finest achievements, but also the source of many difficulties. Fixation of the affections or failure to grow from stage to stage in the love life is a fairly frequent occurrence, which may cause much unhappiness and maladjustment. Fairly well-defined stages can be traced in the development of the affections of the normal, healthy,

well-adjusted individual, starting with self-love in the infant, expanding into love of parents, later into affection for others of the same sex, and finally into affection for members of the opposite sex, which is the basis for marriage and successful family life.

The infant is at first a self-centered being concerned with the satisfaction of his organic needs and with that in his environment which affords him pain or pleasure. He evidences affection for those who minister to his needs and for those objects which give him pleasurable sensations. Some individuals never grow out of this stage of self-centeredness, others retain only some of these infantile satisfactions. The person practicing the autoerotic (*i.e.*, self-love) habit of masturbation, which not uncommonly develops for a time in childhood before there is awareness of its relation to the sex life, is securing satisfaction on an infantile level. Another person who does not express his self-love on the physical level may be quite as self-centered in his affections. You recall Ned who was so interested in his own image in the mirror. When such a person apparently develops affection for another, he may really be attracted by characteristics similar to those which he admires in himself. It is an interesting speculation as to whether frequently noted similarities between some married couples may be at least partially accounted for on this basis.

Sentiments of love for parents develop naturally out of a wholesome home environment. The child whose life is so barren of affection in this relationship that he fails to develop a strong parental love may be seriously hampered in his emotional growth and warped in his personality. When this parental relationship expands and adjusts itself to the changing nature and needs of the growing individual, it becomes the source of some of the finest and richest experiences in life. When, however, through lack of parental understanding or through a selfish all-absorbing parental affection the child is prevented from normally transferring some of his affection to playmates and associates, it becomes a cramping and stagnating force.

Stages of parental love vary somewhat for the boy and girl. The boy is likely to develop a strong attachment to his father, with the element of hero worship involved, at an earlier stage than the girl, with whom affectionate admiration of a father is

usually an important step in the development of fine and desirable associations with other members of the opposite sex, and finally in the choice of a life partner. This holds true likewise in the relationship of a boy and his mother. Too strong an attachment of a boy for his mother or of a girl for her father may prevent either from developing a normal and satisfying love for a member of the opposite sex. Progression from one stage to another does not mean complete transference of affection from one person to another, but rather an expansion of the affections to include others. Deep and healthy affections at each stage mean an enrichment of the love life in succeeding stages, but a fixating of the emotions at any stage is quite as serious as a retarding of the intellectual development.

The person who remains imprisoned in the affections of a parent seldom establishes thoroughly satisfying social or vocational relationships. If he marries, he is often seeking a father- or mother-substitute and finds it impossible to establish a partnership on a mutually shared adult basis. In his vocational relationships he may be too dependent or childishy uncooperative to carry on effectively. If the beloved parent dies, he may be left stranded at an age when it is difficult to make new adjustments. Andrew (who was not in the nursery today) exemplifies this situation. After his father died, Andrew became the chief object of the affections of a dominating and solicitous mother. In youth he gave evidence of fair ability, and in late adolescence he made some overtures toward establishing normal self-dependence. He enlisted during the Spanish-American War, but was promptly brought home by his mother when he developed an illness. Later he married, but his wife soon affirmed that he must choose between her and his mother. He chose his mother, devoted himself to satisfying her affections and whims, and received her motherly care in return. He never realized the promise of his youth in any vocational achievement commensurate with his ability. He became and remained a subordinate clerk in a business office. When he was past fifty years of age his mother died, and in a letter to a relative he wrote, "I have nothing further to live for. I am just waiting to join mother."

The affections may become fixated upon companions of one's own sex as well as upon parents. Harriet and Madge are not uncommon illustrations of this perversion. "Crushes"

of girls for other girls or women, and of boys for other boys or men, are natural expressions of the affections in later childhood or early adolescence. When, however, this condition persists unchanged far into adolescence or adult life, it may become a definite abnormality designated as homosexuality. This is a condition in which the individual is attracted only to those of his own sex, and finds it impossible to fall in love with one of the opposite sex or to enter into marriage with satisfaction or success. This situation may involve only the affections, but, owing to the strength of the sex drive, it is likely to involve sex perversions which are severely frowned upon by society and which may cause much trouble and unhappiness. Through depriving one of the normal outlets and satisfactions of family life, it becomes at least a serious barrier to the fullest self-realization.

This condition sometimes results from unwise or selfish domination by an older person, parent or friend, upon whom the child has fixed his affections and who is himself deriving unnatural satisfaction from the relationship; it may also result from the lack of opportunity to form friendships with members of the opposite sex. A masculinity-femininity antithesis may sometimes be involved in the situation. With a girl it may involve a protest against woman's supposedly inferior status and the attempt to prove superiority by hostility toward the opposite sex or by the assumption of mannish appearance or actions. With a boy it may involve uncertainty as to his ability to play a man's role in life and unwillingness to put himself to the test. This attitude may result in antagonism toward or avoidance of the opposite sex, or perhaps in the development of effeminate traits and interests.

Usually the condition is caused by a complex of many influences extending far back into the individual's experience. Possibilities for preventing or redirecting the tendency, when not based upon a physical deviation, are now better understood as a result of the studies and experiments of psychoanalysts, psychiatrists, and mental hygienists. Like other traits of personality, it is often due to faulty conditioning and may be overcome, when faced and understood, if persistent effort be directed toward building up desired attitudes and social relationships.

Herbert's difficulties which were not revealed through our observation of him in the nursery will throw some light on this sort of condition. He is the youngest of four children. His father is very religious with narrowly fundamentalist views, and his mother is a positive dominating person who shares her husband's religious views, and controls most matters related to family life. Prudish about sex, the parents gave the children no scientific sex information, and tried to instill fear and religious concepts regarding this aspect of life. The parents give evidence of some mutual irritation and lack of affection.

Always "mother's baby and pet," Herbert was kissed and fondled by her even in public until late adolescence, when he began to resent it. A vivid recollection of his early years is that of his mother letting down her long hair in the evening and asking him to stroke and brush it. Since he was weakly and ill when young, his mother insisted that the older children play with him and humor him in numerous ways. Thus antagonized, the older children evaded or teased him whenever possible. He met these attitudes with temper tantrums, which elicited his mother's sympathy for him and censure for his brothers and sisters. Ridiculed by his brothers and sisters, Herbert stopped trying to engage in boy's games and out-of-door sports, and with his mother's encouragement played with dolls until late in adolescence. (While he no longer plays with them, he still keeps them and he was merely looking at one when we observed him.) His father tended to be critical and sarcastic with him, often telling him that he would never amount to anything.

At school Herbert was serious-minded and a good student. Beginning to question some of his religious views when he entered college, he attempted to clarify his ideas by delving into philosophy and psychology. In his search he chanced upon a description of homosexuality, which dealt with it as an incurable abnormality. He had realized for some time that he was different in some way from most of his male friends and acquaintances, and had wondered why they so much enjoyed going out with girls. This description of homosexuality revealed the nature of his own tendency and caused such shock and worry that a nervous breakdown resulted, which kept him out of college about a year. When he returned, he found himself

unable to sleep much or to concentrate on his work for any length of time. He became emotionally involved with a young college man who was engaged to be married. Herbert was extremely jealous of the girl and unhappy and depressed whenever the friend failed to invite him to join in recreational activities.

Herbert was still living at home and under strict parental control. His mother considered it her duty and privilege to select all his clothing to the veriest detail, his letters and books were constantly inspected, and he was severely criticized for any expression of opinion which clashed with the parents' views. He was forbidden to use the family car to go out evenings on the grounds that he was wasting time and money by so doing.

When it became evident that he could not work out a desired amount of independence at home without undue irritation and emotional tension, he was advised to rent a room away from home, take a lighter college course to allow time for earning his expenses, and map out a program of social and recreational activities which would include normal, wholesome associations with girls. He was soon adjusted on this basis and succeeded in financing the purchase of a used Ford and a good suit of clothes to facilitate his social activities.

He chose for companions somewhat mannish, dominating girls, and the fact that he preferred girls with long hair pointed strongly to the influence of his mother. In letters written during a period when conferences with his consultant were impossible, Herbert referred to his newer and older selves as Jack and Jill and described how Jill looked on and laughed as Jack tried to enjoy courting a girl.

After about a year's trial of the new program, Herbert reported much less emotional difficulty in his relationships with men, a great improvement in his general health, and a lessening of his nervous symptoms. He admitted that one of his difficulties was a continuing desire for dependence of some sort in spite of his struggle for independence in the home, and that another probably was his adolescent tendency to dramatize his situation and really get some satisfaction from it. Recently he has become interested in an attractive, very feminine type of girl.

Recent research by Dr. Lewis M. Terman and his associates at Stanford University shows that there is a wide range within

each sex and great overlapping between the sexes in the possession of personality traits of masculinity or femininity as measured by tests, so that a tendency toward some masculine traits of personality in a girl or some feminine traits in a boy should not be considered evidence of an abnormality unless associated with distinctly unnatural or unwholesome attitudes toward the opposite sex.

Fear and *anger* are basic emotional reactions which are early expressed by an infant toward those objects or persons which startle, hamper, or hurt him, or which are linked up in his experiences with such sensations. Undesirable modes of fear and anger reactions established in infancy and carried over into later life often become serious handicaps. Many of our fears and phobias have their beginnings in this early period, oftentimes in specific experiences. For example, a person has been known to develop a fear of being in high places as the result of being dangled over a well in childhood by a joking relative. The specific fears which we may develop and the reasons therefor are legion. Temper tantrums, irritability, and desire for revenge are some of the anger patterns which may persist in childish forms.

In both fear and anger the whole bodily organism is prepared for vigorous action, but the energy generated tends to be expressed in different ways. In anger the natural expression is to fight or overcome an obstacle, while in fear it is to escape a supposed danger. Failure to utilize the energy when aroused causes nervous tension and may have an undesirable effect on the whole bodily mechanism.

If either emotion causes difficulty, it is important to observe and try to understand what arouses it, and then to attempt to control it at its source. When the emotion is once aroused, constructive outlets should be found. Fear usually presents a more difficult problem in this respect than anger, since direct outlets are not so easily achieved. The condition of fear has been "likened to an automobile with the clutch thrown out but whose engine is racing at full speed." When a condition of fear persists, as in a state of continuous anxiety, it causes needless wear and tear.

Anger serves useful purposes in overcoming obstacles, and fear has its use as a means of self-protection, but both need to be controlled for serviceable ends. Mere blind repression of

either emotion will not control it. The listing of those things which frequently arouse one's anger may prove self-revealing and uncover the sources of much wasted energy. Likewise, a listing of one's fears, with the search for their causes, is a good start toward overcoming them. Once we understand the nature and source of a fear we can more readily deal with it. The conquest of a specific fear or of an habitual state of fear may involve the gaining of more self-confidence, first in little things and gradually in a wider sphere of activity. It is a matter of habit formation.

PERSONAL INVENTORY

We shall leave you largely to your own devices in identifying your infantilisms. Recognition of the fact that we all have them may prevent embarrassment when you discover them. We need a sense of humor which we can direct toward ourselves as well as toward others or external conditions. This is a good place to have some wholesome fun at our own expense. You may wish to ask yourself such questions as these:

What illustrations can I find of attitudes or behavior characteristic of an earlier period which I have failed to outgrow? Have they caused me any difficulty? How can I outgrow them?

Can I find illustrations of the precocious assumption of attitudes or behavior belonging appropriately to a later period? Can I account for their presence? Have they been a source of maladjustment in any way? How can I overcome them?

Chapter Ten

SECRET PASSAGES

TRAILING OUR CONFLICTS AND COMPENSATIONS

Unless you engage the services of a special guide, this trip through the secret passages of your personality must be made alone. You will undoubtedly encounter resistance against even your own explorations, since many trails are camouflaged to deceive *you* and to throw *you*, quite as much as others, off the scent. After you have discovered and penetrated beyond the camouflages, you are likely to encounter some vicious-looking watchdogs. But do not let these creatures frighten you and force you to turn back. Look straight at them with unflinching eyes, and they will slink away with their tails between their legs. They may track you for awhile and growl occasionally, but have no fear.

There is one other danger to which you will again be exposed—that disease of morbid introspection. But if you were well-immunized before we started on this journey, and did not succumb to previous exposures, entertain no concern on this score.

Before we start sleuthing along our own trails, the guide will talk with us about some common difficulties we shall meet, and suggest ways of attacking these problems. Let us return to the Hall of Memories and ensconce ourselves in easy chairs while we listen to the guide. The Hall's atmosphere is conducive to the sort of thinking we shall need to do.

How are these camouflaged trails built up in our personalities and why should we try to explore them? Why not leave them alone?

The ability to face reality, whether pleasant or unpleasant, to stand on one's own feet and squarely accept responsibility for one's course of action and the outcome, is the most essential foundation stone of a strong, dependable character. It is the most difficult one to quarry from the mountain of human experience and to lay square and true. An early habit of avoid-

ing reality and failing to assume responsibility for the consequences of conduct, if continued into later life, may reveal itself in the sidestepping of issues, continuous alibis, rationalization, shirking of responsibility, blaming others for failures, and all the varieties of mental dishonesty which warp our personalities and prevent our securing the trust, confidence, and cooperation of others. More important still, the watertight compartments maintained to prevent recognition of inconsistencies and discrepancies certain to exist under such circumstances tend to prohibit the development of an integrated or unified personality. This means that the whole force of the personality cannot be mobilized to act as a unit in an emergency, that personality is denied opportunity for its richest and fullest development.

Facing facts squarely calls for more courage at times than meeting physical danger. To turn one's back upon facts may put behind one a dangerous enemy which, if met face to face, could be conquered, oftentimes easily. When an unpleasant experience is crowded out of consciousness and apparently forgotten, it may continue to work underground and return in a disguise, perhaps friendly and acceptable, only to turn on its victim unexpectedly and cause endless trouble. "Ye shall know the truth, and the truth shall make you free," is as applicable in the whole realm of the mental life as in the spiritual.

There are innumerable ways of dodging or evading unpleasant situations and of actually fooling ourselves as to what we are doing. Such tactics may give us temporary relief from unpleasantness, but they do not solve the problems involved any more than running from a fire will put out the conflagration.

But if we face reality resolutely, we are sure to encounter conflicts. What are the sources of these conflicts?

The complex environment of our modern world arouses conflicting desires and interests, all of which cannot be satisfied. Our desires for success in our work, for possessions, for social participation and recognition, for recreation and leisure, for friends, love, and home are almost certain to clash in some ways. The resulting conflicts call for thoughtful adjustment if we are to derive real satisfaction from living. In one person the desire for vocational success may be so much stronger than any other

desire that he will experience little difficulty in excluding most other activities. Sometimes this preoccupation with work may result, not from an overweening interest in the work itself, but as a compensation for the thwarting of other interests.

During the process of growing up and adjusting one's self to life conditions, the various instinctive urges and the emotions become interwoven in complicated systems of behavior patterns, and thus furnish motive and drive for activities often far removed from those which would directly satisfy the original urges. One may, for example, work hard at some activity which does not in itself furnish sufficient incentive, but which may result in progress in or toward a desired vocation. This in turn may mean a livelihood and the possibility of establishing or maintaining a family and of achieving a certain social status. Interests, desires, and incentives are thus the resultant of many interrelated native tendencies, emotions, sentiments, ideals, habits, and attitudes, which have become associated in various behavior systems in the course of life experiences. Clashes of interests both within one's self and between self and environment are inevitable.

Failure to resolve conflicts and to find socially acceptable and satisfying outlets for strong urges is a frequent source of unhappiness, inefficiency, and various neurotic manifestations. No one can find immediate or direct outlets for all his urges, but difficulty results most often when the conflict, due either to conflicting urges within or hindrances from without, is not recognized and frankly faced, or when defeat for the urge is accepted without reconciliation or the substitution of some other satisfaction. Oftentimes an urge is so out of harmony with one's ideals or accepted standards of conduct that its recognition would cause distress or a sense of unworthiness; it is therefore repressed or not recognized for what it is. The emotional aspects of the drive are not eradicated by such repression, however, and may find expression through devious ways, either mental or physical.

Illustrations of this mechanism were frequent among soldiers during the World War. Many soldiers developed forms of paralysis and other disabilities which prevented their engaging in dangerous activities, but which in many cases disappeared after the Armistice was declared or after painful electrical treatments. These soldiers were not consciously malingering

or playing safe. They were confronted by unbearable conflicts between the strong urge for self-protection and the desire to be courageous. Admission of cowardice with its social disapproval would have been too painful to face, but the subconscious played one of its tricks by incapacitating them physically. The real cause of the physical disability was revealed many times by the disappearance of the paralysis when the electrical treatments became extremely painful.

The sex urge, because of its strength and the many social restrictions built around it in civilized society, is perhaps more often in conflict with other drives and more often repressed unconsciously than other native urges. A disappointment in love, an unfortunate sex experience, and the failure to recognize and consciously redirect the sex drive have many times been conditioning factors in causing mental illness or other varied sorts of physical or mental manifestations of unresolved conflict.

Antisocial attitudes and conduct are often manifestations of inner conflicts. The desire for recognition and prestige is a very basic human urge, and failure to achieve a desired status is the source of much unhappiness. Early failure in school to establish a worthy status among classmates has helped to start many a child upon a career of delinquency. Again, mischievousness and the expression of animal spirits have caused the label of "bad boy" (or girl) to become attached to a youngster—a label which he often proceeds to earn. Recognition through daredevilry or crime is sometimes more satisfying than being a colorless nonentity. Through failure to recognize and provide outlets for this normal human urge, society is often responsible for producing its own enemies—antisocial or criminal individuals. We can be masters of our own fates in this respect, however, by facing our conflicts and failures frankly and by being resourceful in finding substitutes for our unattained goals rather than in compensating blindly for them.

Physical limitations or defects, which prevent one's engaging in activities normally or achieving coveted ambitions, are a prolific source of emotional conflict, and often exert a crippling effect upon personality. Byron's lameness undoubtedly helped to make him very sensitive and contributed to his seclusive nature and unhappy disposition. The sense of frustration or inferiority often resulting from a physical handicap may find expression in traits of personality or conduct which appear

on the surface to be totally unrelated to the real cause. Apparent conceit, stubbornness, or perverseness may, in reality, be an unconscious compensation for a sense of lack and dissatisfaction.

A rather clear-cut example of this sort of compensation was evidenced in Philip K. who, crippled by an accident in childhood, had been unable to participate in games and sports. He excelled in his studies while in school, but was practically a recluse, assuming a disdainful attitude toward athletes or members of the opposite sex. Later in his work as an accountant he was frequently surly, sarcastic, or faultfinding with his associates and as a result failed to secure promotions in spite of unusual technical proficiency. Early in his twenties he developed interest in a young woman who refused his offer of marriage. Thereafter he initiated several friendships with other women, but terminated each before there was opportunity for him to be rebuffed. He devoted much time evenings and week-ends to writing and eventually was successful in having some of his short stories accepted and published. This recognition has resulted in a marked improvement in his disposition and he now has a small but satisfying circle of friends.

What are some of the undesirable ways in which we deal with conflicts?

Several undesirable ways of meeting emotional conflicts have been illustrated in considering causes of conflict. The fundamental difficulty at the start is almost invariably that of failing to recognize the nature or sources of the conflict or of repressing the recognition, so that, speaking figuratively, the enemy is unknown or at one's back—situations which always place the fighter at a disadvantage. Merely facing the difficulty or recognizing it for what it is robs it of much of its potency for harm; the sense of being under the sway of mysterious or unknown forces may produce fear or an exaggeration of their real strength. Keeping the conflict as such out of consciousness prevents a rational solution and causes it to be dealt with subconsciously with emotion in control. Under such circumstances an acute conflict is often avoided or overcome in some undesirable way. Let us examine a few.

A withdrawal from the struggle or a flight from reality is a frequent escape mechanism. This may be manifested by lack

of effort to achieve certain desired but seemingly unattainable goals or life satisfactions, and may eventually pervade the whole personality, thus resulting in aimless, ineffective living. It is very frequently evidenced in minor matters. Probably all of us can recall missing a dreaded examination or class period at school because of a headache or other physical indisposition. A business or social engagement may have been interfered with for a similar "good reason." Such occurrences may become habitual and smack of the small boy who is ill at school time, but soon recovers sufficiently to enjoy play. Chronic invalidism is often an unconscious escape from an unsatisfying or unpleasant life, resulting in attention and care which are balm to a hurt or hampered soul. To insure mental health and efficiency we need to recognize that the seeds of these evasions, often evidenced through such common traits as indecision, procrastination, dependence on others, or unwillingness to accept responsibility or hardship, may, if allowed to grow, become troublesome weeds which are difficult to eradicate.

Often the energy of a thwarted drive finds an outlet through daydreaming, in which the urges are satisfied in the imaginary realm built up in place of the real world. If this realm of phantasy becomes more satisfying than the real world, it may be substituted completely for the latter and the individual becomes, as we say, insane. Many a life inmate of an institution for the mentally ill lives in his realm of phantasy, surrounded by impenetrable barriers to the real world. Many apparently normal individuals view life through their distorted dream worlds and thus create difficult problems of adjustment for themselves.

Probably all of us use this withdrawal mechanism in less exaggerated forms at times, and our daydreams are often sources of some of our finest ambitions and ideals. They may serve as one means of compensating for disappointing and limiting features of life, and also as a means of gaining vision and perspective which will enable us to carry on, or to have courage to make a leap necessary for victorious achievement. Their danger lies in the confusing of phantasy and fact, so that real life is lost sight of, and in the substituting of the easy satisfactions of the life of phantasy for the hard-won victories of the real world.

Neurotic evasions are common means of avoiding conflicts and cause much inefficiency and unhappiness. As explained above, failure to recognize an emotional conflict for what it is, or an attempt to repress blindly a seemingly futile urge or one out of harmony with one's ideals, does not care for the emotional drive involved. The continuous damming up of life energies may continue for a time, but ultimately, if normal avenues of expression are closed, they will find outlets in many devious ways in which they may not be recognized as the original urges.

It has long been recognized that many physical disorders for which no organic cause can be discovered are functional manifestations of a frustrated personality. Oftentimes an analysis of the effects of such a physical malady upon the afflicted individual will reveal the fact that desired ends, not attained in health, have been achieved through the illness. The chronic invalid who has enslaved members of the family by demanding constant care and attention, which would not otherwise be given, is a common example of this sort of situation. Many lives have been sacrificed to the selfish demands of such neurotics whose energies have been turned inward and concentrated upon self. Preoccupation with physical symptoms is often characteristic of these neurotics, and they imagine that they have all sorts of diseases. The neurotic ailment oftentimes serves as a means of escape from responsibilities which have become unpleasant or which the individual feels incompetent to meet adequately.

A constant state of restlessness, uneasiness, fear, or anxiety or an unreasoning compulsion to perform meaningless or strange acts are other types of neurotic manifestations of unresolved conflicts which may, if they become too pronounced, render an individual incompetent to carry on normal living. The cure for such conditions almost invariably involves discovering the sources of conflict and finding worthy and satisfying means of self-expression and self-realization. A career or some sort of creative expression, religion, social service, hobbies, or recreation, is recommended from among the innumerable outlets that can be utilized in the cure.

Narcotics, such as alcohol, opium, morphine, and many other habit-forming drugs, have for ages been used to find surcease from physical or mental distress. Alcohol causes the

drinker to forget unpleasant burdens or responsibilities and in sufficient quantities radically changes his whole personality temporarily. Opiates very quickly alleviate physical pain and produce pleasurable sensations. In large quantities they may cause a high state of emotion and a tendency to violence. Any of these drugs, if used in sufficient quantity over a period of time, may produce marked permanent changes in personality, involving a deterioration of the higher mental processes and aberrations in the perceptions, sensations, and emotions. The person who is tempted to use drugs as an escape from the distress of inner conflict should recognize that they solve nothing and merely result in the lessened ability to cope with life.

Sometimes, instead of withdrawing from a difficulty, we engage in *repeated futile and blind efforts to reach unattainable goals*. An exaggerated example of this method is to be found in the lines of the satirist:

Why can I not look in my ear with my eye?
If I set myself to it,
I know I can do it.
You never can tell till you try.

Much time and energy are wasted by this method of meeting frustration, and in the process many opportunities for fine achievement in other fields of endeavor are overlooked. Of course, it is important not to underestimate one's abilities and aim too low. Persistent effort directed toward overcoming apparently insuperable obstacles has laid the foundations for some of the most successful and worthy careers in human history. Such effort unwisely directed, however, has probably caused many heart-breaking failures. A well-known mental hygienist has raised the question as to whether the task that seems extremely difficult for an individual is really the appropriate task for him. Such a test of worth-while effort should surely be counterbalanced by comprehensive knowledge of self and sound standards of value, if effortless drifting is to be avoided.

We often evade recognizing or facing conflicts by many varieties of *defense reactions*.

One method that we frequently use is that of actually fooling ourselves, at least partially, into believing that some undesired situation does not exist. Robert, described on page 37, had

developed such an inflated picture of himself that he failed to recognize any of his shortcomings or failures. As a result he became involved in such unbearable situations that he retreated within himself, built up his own fictions of reality, and became mentally ill. A person who allows himself to develop such tactics in meeting life situations becomes the prey of that which he can neither see nor understand and therefore cannot master.

Most often we merely distort real situations instead of denying their existence. Mental perspective is quite as likely to vary in accuracy as visual perspective. Our motives and desires, our emotional tone and mental attitudes, all determine both what we attend to in our environment and what we perceive. We might compare our minds in this respect to a camera, but we must note that the lens is colored by our varied moods and the sensitive plate is invariably one which has received and retained many previous impressions, so that the outlines of each new one are mingled with those already there. Also impressions are received not only from external sources, but from within ourselves in the form of our wishes, imaginings, and anticipations. The resulting pictures are often as blurred and distorted in appearance as those developed from a reused sensitive plate in a real camera. .

Rather than distort the picture, we should, of course, face the facts. This need not mean continuous dwelling upon the unpleasant or disagreeable ones. These should merely secure enough attention to be dealt with as effectively as possible, and, if we accept difficult problems as a part of life, it is often possible to study them as objectively as the scientist studies pests or earthquakes, which to most of us are annoyances rather than interesting phenomena. Useless and stultifying self-pity is thus avoided. But let us examine some of our frequent distortions.

Projection is a game we all play at times to avoid recognizing and facing conflicts. It is one of the commonest forms of defense reactions and results in shifting the blame for unpleasant situations to other persons or external conditions, instead of looking for the causes within one's self. Often we project our own emotional states or attitudes into others about us. A fellow worker stopped me and exclaimed, "Please don't look at me so accusingly. I simply couldn't get that report in

yesterday." I was unaware that the report was late, but accusation had been read into my attitude.

While all of us engage in this game of projection at times, with some it develops to the point of a real abnormality. Johnny, for instance, stumbles over a stone and falls, hurting his hand; mother helps him up, kissing the injured hand and saying, "Naughty old stone!" Johnny kicks the stone viciously, and after a few more such experiences forms the habit of blaming objects and persons for his difficulties and mistakes. Later on his playmates are to blame for the broken window, his teacher gives him a poor mark because she has a grudge against him, the referee discriminates against him or his team during a football game, and his employer advances his favorites or promotes others for political reasons. So the projection pattern progresses even to the point where he thinks others are persecuting him, and he may develop a mental disease.

We all need to establish thoroughly the habit of checking on ourselves when frustrating or dissatisfying conditions develop, in order to discover our own weaknesses or mistakes before searching for external causes, for only thus can we improve our ability to grapple successfully with life situations. Of course, this habit could be carried to the point of overlooking external contributing difficulties, thus limiting opportunities for achieving satisfactory solutions of many problems. Also the habit of self-criticism may be developed to an exaggerated extent with resultant self-depreciation and lack of self-confidence which may prove serious handicaps. However, the tendency to shift blame is a much easier one to acquire because it is more pleasing to the ego, and the individual with such a tendency strongly intrenched may break more easily under severe strain because he cannot face reality objectively and does not know and therefore cannot adjust himself intelligently to his own weakness. The admonition to "first cast out the beam out of thine own eye; and then shalt thou see clearly to cast out the mote out of thy brother's eye" is an important rule of mental hygiene.

Of course, in justice to the projection habit, we must admit that it is through our own experiences that we are able to understand others, to enter as it were into their lives and relive our experience in theirs. True fellowship depends upon this ability to sympathize with and enjoy others' experiences through projection and understanding. The pattern is an unde-

sirable one only as it involves a subjective instead of an objective attitude and a tendency to shift blame or responsibility.

Rationalization or wishful thinking is a temporarily pleasing but deceptive process of which we are all probably guilty at times. We find all sorts of "good and sufficient reasons" for doing what we want to do, while the opposing reasons may not occur to us. When our behavior conflicts with our ethical principles or standards of conduct, rationalization uncovers alibis to appease an uneasy conscience or to flatter an injured pride. We can readily marshal the needed arguments to justify past deeds or present convictions. Another form of such reasoning is present in the sour-grapes attitude of the person who has failed to achieve or secure something and then tries to convince himself that he did not really want what he started after. This attitude is preferable to that of grieving or sulking over failure since it does tend to relieve emotional tension, but it does not "bring home the bacon" by providing a substitute goal which may be reached. Of course, we can neither prove nor achieve anything by this process, but are merely bolstering up our self-esteem. It should be considered a form of mental dishonesty which beclouds issues and often prevents satisfactory adjustments.

Identification is a defense mechanism that undoubtedly explains many rabid reformers who have identified themselves with movements representing the antithesis of hidden urges or desires which have been sources of internal conflict and personal embarrassment. The person quick to condemn some lapse of conduct in another is often expressing an unresolved conflict resulting from his own personal lapses or adjudged unworthy desires, and is thereby compensating for a personal sense of unworthiness or inferiority which he has failed to recognize and control consciously in more direct ways. Identification with a really worthy cause which springs blindly from such unresolved conflicts will not necessarily result in a more expansive personality.

However, we should not overlook the fact that this process of identifying one's self with other individuals, groups, movements, etc., so that the self takes on, as it were, the qualities and status of the object of identification, is an important process in self-development. It is a means by which one grows out of infantile self-centeredness and becomes a truly social being.

Identification, first with the family group, and later with associates, other social groups, and movements and ideals, is a process of growth and expansion of fundamental value. It may prove a pitfall, however, if the identifications are of a narrow or unworthy type, or if they fail to expand and include new interests. School loyalties are usually among the finest sources of self-expansion, but, if too strong, even they may result in a sort of narrow provincialism. Many an extreme nationalist, who has come to associate his own personal prestige with that of his country, has failed to loose these bonds sufficiently to gain the vision of a wider world citizenship. The sense of prestige dependent upon family or economic status often prevents individuals from establishing new and valuable associations. In general a person is as broad and fine as the interests with which he has identified himself.

How can we approach and resolve conflicts most successfully?

"Life is one grand, glorious struggle, which every normal individual enjoys as long as the struggle does not result in the capitulation of his ego. To prove that we are the master of our environment, that the difficulties of life have only served to prepare us the better for the next conflict—that is life."*

Facing a conflict and analyzing its sources are the first steps toward resolving it. Just as a wound must oftentimes be probed and cleansed of impurities to prevent infection, so an internal conflict should be faced and analyzed to avoid the possibility of a festered or unhealthy condition in the personality. A bit of unpleasant probing at the start may oftentimes prevent later unhappiness or mental illness. Before this probing can be done very successfully, however, it is necessary to have achieved a fairly objective attitude toward one's personal desires and problems. Otherwise the process may involve only a morbid, highly emotional mulling over of difficulties or disappointments. A recognition that conflict of some sort is apparently a universal characteristic of life and that growth takes place as conflicts are met and resolved effectively helps one to gain perspective about personal conflicts and to avoid the morass of self-pity. It affords comfort and assurance to know that one is not unique or different from others in the possession of conflicting urges

* Morgan, John J. B., *The Psychology of the Unadjusted School Child*, by permission of The Macmillan Company, New York.

or in the meeting of obstacles, but is facing a common human problem which merely differs in some of its manifestations with each individual. Also reflection on the fact that the greater the conflict the greater the possibilities for growth and mastery should serve as a challenge if the conflict seems overpowering. It should also be recognized that a cumulation of apparently unimportant conflicts which have not been faced and resolved may cause more trouble sometimes than a more obvious difficulty which demands and gains attention at once.

The next step is *a consideration of possible solutions*. If the problem is caused solely by the conflict of inner urges, such as the desire to excel in work and the desire for recreation, or the urge to do something out of harmony with previously established standards of conduct, some of the questions to ask one's self are the following: What are the probable consequences of the contemplated activities? Which course of action will bring the greatest or the most lasting satisfaction or benefit? Which will result in the largest amount of growth?

If one urge is not ruled out by tentative answers to these questions, the next to be raised might be: How can a compromise plan of action be developed which will allow for the satisfaction of both urges? Such a plan may involve the temporary postponement of activities connected with one set of desires or the readjustment of each to allow for the other.

When the conflict is due to some personal limitation, such as a physical or mental handicap or the lack of special abilities or qualities essential for a desired activity, there are at least two important questions to be raised: Can the personal limitations be removed or overcome, and, if so, how? If a limitation appears to be insuperable, what substitute activities can be planned which will adequately compensate for the frustrated ones?

When the source of the difficulty lies in external conditions, such as limiting features of the physical or social environment or a conflict with the desires or interests of other people, such questions as the following are suggestive of desirable possibilities: Can the limiting environmental conditions be changed, and, if so, how? If not, what sort of constructive compromise can be effected? What are the possibilities for solving the problem of a conflict with the interests of another person by the application of the principle of "live and let live"?

Most human problems involve several or all of the factors considered above and so are sufficiently complex to call for the application of most of the suggested approaches.

Action based upon reasoned choice should *always* be the final outcome. A desirable and satisfying outlet for the energy of emotional drives is the ultimate goal of the reflective process outlined above. Otherwise we are making Hamlets of ourselves with an ineffective "To be or not to be" philosophy. 'Twere better to have lived and failed a little than never to have lived at all. The important thing is to bring the higher thought processes into action in a conflict and not leave the fighting to the blind forces of emotion. The emotions should not be discounted or pushed into obscurity. They should be brought under the control and leadership of intelligence. Peace without victory is often the only possible, and perhaps often the most desirable, outcome of a conflict.

Sometimes this outcome is achieved through a compromise plan of action which allows for a partial victory and a partial defeat of each factor involved. Again, it may be achieved through a complete transformation of the original urges. Such a process is called sublimation, and is being carried on constantly by all of us. The primitive urges of sex, fear, and rage, for example, cannot find a full and direct outlet in civilized society. The energy connected with these drives is not specific and may be expressed through many activities not directly related to the original drives. Much of the science and art of our civilization is probably the result of such a transformation of energy. Without such transformation we would revert to an uncivilized state or live much more frustrated lives than is now our fate.

PERSONAL INVENTORY

Now, we hope you will approach this adventure of tracking down some of your conflicts and compensations with a spirit of good sportsmanship and with anticipation of the hunt. When once you start to inspect your hunting preserves you will probably find quarry for many a day's sport, so we would suggest that you choose one object of prey at a time and spread your sport out over a considerable period of time.

The recognition and facing of new conflicts as they appear on your horizon, and their resolution or the working out of new and desirable compensations, are quite as important as the quarrying of old conflicts and compensations.

Chapter Eleven

THE MYSTERY CHAMBER

CHARTING OUR MENTAL HEALTH

Some secret trails through which we have scouted lead in devious ways into a strange chamber enshrouded in the past in fearsome mystery and reputed to be haunted by demons and eerie spirits. However, scientific investigation of so-called insanity has solved many mysteries of the strange phenomena which occur here. It has dusted the cobwebs from some of our mental windows and let in the sunshine and fresh air of understanding. Science is rapidly changing a musty dungeon into a light and airy health room. Entering this room by a direct route, we shall study ways of checking upon and charting our mental health.

Mental health, like physical health, is a relative, not an absolute, matter. We all have our mental as well as our physical deviations from an ideal norm and probably cannot expect perfection in either case. Except where a definite breakdown has occurred, the problem is to determine the degree of mental health and the points of weakness which might cause trouble under strain. Accordingly, we must have some standard against which to check our health and an understanding of some of the danger signals of ill health. Without too great concern for trifling deviations, a serviceable standard of health should be set up such as that indicated in the following definition by Dr. Karl A. Menninger:

Let us define mental health as the adjustment of human beings to the world and to each other with a maximum of effectiveness and happiness. Not just efficiency, or just contentment, or the grace of obeying the rules of the game cheerfully. It is all of these together. It is the ability to maintain an even temper, an alert intelligence, socially considerate behavior, and a happy disposition. This I think is a healthy mind.*

* Menninger, Dr. Karl A., *The Human Mind*, by permission of and special arrangement with Alfred A. Knopf, New York, authorized publisher.

CHART[®]**Table 1**[illegible]

whether the person tends toward the first or second item in the pair of traits, the plus sign indicating the first and a minus sign the second item. Two separate ratings for the same pair of traits indicate that the probable tendency for a person with this general trend of personality may vary within the limits of the two scores.

3. Indicates important traits to observe with this type of individual, but ones for which the particular type of reaction may vary with the individual.

What are some of the danger points for mental health in our personality trends and traits? Any of the previously noted pitfalls in human development may serve as weak points in the personality and under conditions of strain or conflict may contribute to an unhealthy mental condition. The fewer of these deviations we have, the better our mental health is likely to be.

The Personality Chart on pages 128-129 depicts graphically some of the personality trends and traits most significant in influencing mental health. The word "traits" is used to indicate specific types of habits or behavior patterns, and "trends" to indicate the large organizations of these traits which determine personality tendencies. Although the grouping of the traits in the chart is somewhat artificial and involves overlapping, they are divided, for convenience, into five groups: physical, emotional, volitional, intellectual, and social. The pairing of opposite traits within these groups is based upon the fact that human beings vary in the degree to which they possess most traits according to the normal probability curve, from one extreme, through average degrees, to the opposite extreme. To illustrate with the first-mentioned pair of traits, Physical Poise—Nervousness, individuals vary from the possession of extreme physical poise which may even be carried to the point of unnatural and undesirable precision of movement through varying degrees to the other extreme of all sorts of nervous habits, such as tics or unnecessary random motor reactions, extreme nervous tension, etc.

In a few cases it would seem that in a pair of traits the first item, such as good sportsmanship, honesty, and wholesome sex attitude, could not be present in too extreme a degree. With most of the pairs, however, undesirable extremes in both directions can be discovered for some sorts of situations. Even the trait of honesty may be carried to the point of undue concern for meticulous truthfulness—a compulsive tendency in some forms of mental disorder which causes its possessor much anxiety and grief.

The column at the left under "Trends" classifies various organized personality tendencies under "Group adjustment," "Life attitudes," and "Self-attitudes." Adjustments to self, to others, and to life in general constitute major problems for every one, and any personality, if studied carefully, might be

identified in some important respects with one of the types described within each of the three main divisions. Also, the dominant trend of a personality can usually be classified roughly under some one of the descriptive types, but such a general classification should be used only as a starting point for fuller understanding, not as a rigid designation of type.

In the columns to the right of each listed "type" of personality and below the lists of traits are symbols indicating the probable sorts of behavior tendencies to be expected of each type. The chart may appear complicated at first glance, but if the following explanation is kept in mind, the interpretation of the chart becomes quite simple: A check mark always indicates satisfactory adjustment. A plus sign within the check indicates a tendency toward the first item in the pair and a minus sign within the check indicates a tendency toward the second item of the pair. A plus or minus sign by itself indicates maladjustment, the plus sign denoting maladjustment in the direction of the first item and a minus sign showing maladjustment in the direction of the second item in the pair.

By following the horizontal column across for each sort of personality trend and interpreting the symbols as explained, it is possible to secure a descriptive picture of significant traits which tend to be characteristic of each organized personality trend. Of course, no actual person may exactly fit into a particular picture here, since no two individuals will have exactly the same organization of traits. Only the most significant traits for each type have been rated.

Starting with the first type listed under "Group adjustment," the adaptable person who leads, or follows, or does both, it will be noted that no maladjustments are indicated. This does not signify that such a person may not be maladjusted in some respects. He may, for example, have a very poor physique or be physically handicapped; he may have only mediocre mental ability, or may have serious personality defects. But if he can be classified as a socially adaptable person, he is very likely to be quite well adjusted with respect to the traits which are marked. Comparing the leader and follower, note that the former is rated as having good physical poise and as being cheerful, alert, persistent, courageous, self-reliant, original, aggressive, gregarious, friendly, cooperative, a good sport, popular, and neither too impulsive or cautious, nor too trusting

or suspicious. The adaptable follower, on the other hand, while not rated as maladjusted in any of these respects, may tend to be more easily discouraged, less courageous, more cautious, dependent, imitative, and submissive, but an equally good sport. No attempt has been made to indicate the direction of tendencies for the adaptable person who both leads and follows except in the matter of good sportsmanship.

The three other major types listed under "Group-adjustment," the person who neither leads nor follows, the outsider who wishes he "belonged," and the antisocial or perverse person, have been assigned many maladjusted ratings which should be studied carefully to note danger points. The seclusive type listed under the first of these three groups is marked with a double dagger (‡) for the trait relating to physique, a rating which indicates that this trait may be significant in explaining his poor group adjustment. A person with a physical handicap which hampers him in participating in normal social activities, or which sets him apart as different from others, may fail to compensate for this difficulty in a healthy manner and as a result become seclusive and unsocial.

The person with this trend may be more depressed than cheerful, though he is not so likely as some other types to exhibit this trait to an extreme degree. For the other traits of mood and emotion he is rated as possibly ranging from maladjustment in one direction or the other to merely a strong development of the trait without necessary maladjustment. He is likely to be more steadfast than changeable in his moods, even to the point of extreme stubbornness or negativism, and he may be inwardly irritable, though outwardly calm rather than excitable. He is dreamy, often gaining most of his life satisfactions through his daydreams and phantasy rather than through actual achievement. While he may be an impulsive and courageous hero in his daydreams, he is more likely to be cautious in real life, though at the same time self-reliant or self-sufficient. He is original rather than imitative, for he does not enter sufficiently into the lives of others to observe and desire to emulate them. He may evade many of the realities of life, living essentially within himself and interpreting his experiences subjectively rather than in relation to life about him. He thus becomes self-centered, often fails to see the other person's point of view, and therefore tends toward

maladjustment in most of the social traits listed, or at least toward the second item in many pairs. He is likely, if extremely seclusive, to be submissive, solitary, unfriendly, perverse, a poor sport, selfish, unsympathetic, disliked by others, condemnatory and intolerant of others, and unresponsive rather than affectionate.

The seclusive person tallies quite closely in many respects with the extreme introvert. Like the latter he may have a rich inner life and may, with a fortunate combination of abilities, make more valuable contributions to the world than would a more socially inclined individual. But if he should break under strain, he might cut off even his meager contacts with the world of reality and live completely in his own world of phantasy.

A careful study of the chart will make further descriptions unnecessary here, but a few interpretative comments will be added. The callous type might be used to illustrate a tendency within this group which is characteristic of one type of mental disorder—lack of normal emotional responses to life situations—and the suspicious type manifests tendencies toward the type of disorder in which ideas of persecution and self-reference dominate. A person with this trend is likely to be suspicious of the motives of others and to interpret their behavior as directed against himself in some undesirable manner. The outsider who wishes he “belonged” may show outwardly the same non-social tendencies as the seclusive person, but will inwardly wish to be accepted socially. His personality trend and traits are probably due not to innate tendencies, but to some unfortunate conditions or experiences which have prevented his developing the social traits needed for participating effectively in group activities. The chief danger points for him lie in bad forms of compensation for his disappointments over social failures or in giving up the struggle and withdrawing from reality.

The antisocial or perverse types have been called by Menninger “the lice of civilization.” He cites as examples Leopold, Harry Thaw, and Jesse James (and we might add Dillinger), describes them as people who cannot keep out of trouble and who break all the rules of the game, “hard-boiled” ne’er-do-wells, and suggests that they be colonized as a means of protecting society. Prevention of social conditions which sometimes help to produce these perverse types and education directed

toward giving them insight into their own behavior mechanisms, if begun early enough, might prove to be more effective measures in many cases than colonization.

Among the types listed in the "Life-attitudes" group, the overoptimistic person may, if his tendency becomes exaggerated, build a sort of personality which breaks under strain. This type never recognizes personal limitations and cannot accept defeats graciously. If a mental breakdown occurs, delusions of grandeur and omnipotence are likely to develop and nothing appears to be impossible. A person with this trend may possess an apparently inexhaustible supply of energy, often expressed in ceaseless activity.

The unhappy or melancholy type of person shows many traits opposed to those displayed by the overoptimistic; he is depressed, lacking in self-confidence and energy, and is often extremely inhibited in self-expression. Lincoln has been described by some of his biographers as possessing a strong melancholic tendency which pervaded his whole personality, but his keen sense of humor, fine intelligence, and certain highly developed social traits undoubtedly served as balancing factors to keep him on the safe side of the line of mental health.

The changeable person with variable moods of elation and depression may manifest the traits of the two previous types in alternating cycles—now up on the crest of a wave of optimism and activity, and now down in the trough of pessimism and inactivity. Although this same tendency in exaggerated form is characteristic of one form of mental disorder, many individuals possessing this tendency go safely through life without succumbing to its dangers. An understanding of the rhythm of the cycle which is in some respects characteristic of all life helps one to cope with it better and even to turn it to good account. A philosophical attitude such as that embodied in the statement attributed to Lincoln, "This too will pass," will in most cases help to tide over the depressive period, which may with a calm but forward-looking viewpoint be used to accomplish work of a sort that would often be irksome in the expansive mood. Then on the upward trend comes the opportunity for the more constructive activities demanding energy and enthusiasm. It is possible with understanding and experience to control the peaks of the cycle so that neither mood becomes so exaggerated. The method of control will vary with

the individual and each must discover what helps him most. Religious faith, prayer, philosophy, poetry, recreation, friendly intercourse, hobbies, etc., have often proven valuable aids. An adequate perspective on life which does not allow one to overestimate the importance of one's emotional reactions at any time, a good sense of humor, and sufficient self-knowledge are also invaluable aids in control.

Among the types listed under "Self-attitudes," the anxious or dependent person or the person who is preoccupied with his symptoms is likely, if the tendency becomes exaggerated, to swell the ranks of unhappy, dissatisfied, and maladjusted neurotics. Any of these trends may become established through bad training and unfortunate experiences in childhood; the cure which should come fairly early in life to be successful and permanent involves at least two important features—a thorough understanding of the conditions or circumstances under which the tendency developed, and a remedial program providing for healthy, objective interests and activities which will divert attention and energies away from self toward worth-while achievements. "Whosoever will lose his life . . . shall find it" is good mental hygiene, and its antithesis in the admonition that "Whosoever will save his life shall lose it" is well illustrated in the lives of unfortunate neurotics who have forfeited the real joy of living for self-centered preoccupation with their ultimately worthless and burdensome lives.

Rating one's self on the traits listed in the chart and checking these ratings against those assigned to the different types named will, doubtless, reveal certain undesirable tendencies which should be overcome.* One should not be disturbed by such revelations, however. Much of the world's valuable work is done by persons who may have some of these characteristics even in pronounced degrees, but who have turned them into constructive channels. Dr. William H. Burnham, a pioneer in the study of what constitutes a wholesome personality, has said,

The normal mind is not one that is perfectly integrated and free from defects, arrests of development, or even from attitudes and

* The Bernreuter Personality Inventory yields a score on neurotic tendencies, as well as other personality trends. If you have taken the test it would be helpful at this point to note your score on the neurotic inventory and to note which items raised your neurotic score most.

habits of thought similar to those characteristic of pathological conditions, but rather it is a mind that can compensate for its defects and weaknesses, that can correct its own errors and is able to control its pathological tendencies, or . . . a mind that under ordinary conditions can function normally.*

In the interests of the highest efficiency and happiness we should probably all set up as an ideal a personality which embodies the characteristics of the adaptable, cheerful, and well-balanced persons depicted in the chart. Such an ideal would not lead to uniformity or eliminate any desirable individuality. One could still be as artistic or practical, fastidious or whimsical as one chose. In fact the development of a well-balanced, adaptable personality tends to free one from the bonds of slavery to cruel taskmasters and helps one to be free in the fullest sense of the word.

PERSONAL INVENTORY

You may wish to check yourself on the traits in the Personality Chart on pages 128-129 according to the directions given, and also ask several others who know you well to check your reaction tendencies. It would then be valuable to compare these ratings by others with your own to detect any radical differences in judgment and to try to determine whether the differences, if any, are due to your lack of insight, your raters' lack of knowledge about you, or variations in your behavior under different circumstances.

It is then an interesting game to compare your ratings with those given on the chart for different types or trends to see if you can fit your picture for the majority of your ratings into one or more of those in the chart.

It facilitates this charting game to trace a few rows of squares on the edge of a sheet of paper exactly duplicating the checks which run horizontally across the chart on both pages. Your ratings on the pairs of traits can be placed in these squares, and you can then move this sheet down the chart, comparing your ratings with those for each trend mentioned, and list the number of your ratings which correspond with those for each trend.

If any danger points seem to be present in your picture, it is helpful to consider their probable sources or causes and to map out ways in which you will be likely to eliminate them from your personality.

* Burnham, William H., *The Normal Mind*, by permission of D. Appleton-Century Company, New York.

Chapter Twelve

THE STUDIO-WORKSHOP

SKETCHING AND MODELING OUR PERSONALITIES

Now we shall don our smocks or jeans and enter the busiest domain known to mankind. Activity is ceaseless here. What we think and feel and do when consciously and purposefully working here helps to determine the nature of subsequent activity. And if we fail to give our personalities any wise and conscious attention in the workshop, they continue to grow, not always according to our liking. Let us observe what happens here.

First let us look at the sketches on our easels. Do you recognize here any of the pictures which you caught in the crystal maze? All these various pictures of self for which we are continuously sketching in new details are dynamic factors in our personality development. Do you keep vividly in mind the images of self according to which you wish to model your life? And do you try to keep these in harmony with your other portraits of self?

We have considered how we can clarify our pictures of what we actually are at any time, and how we may avoid many distortions in our pictures of what we think others think of us. We have also considered the desirability of keeping a working contact between these two pictures and the pictures of what we wish to be. A little time occasionally spent in taking stock of these three pictures and in meditating about them will help to keep their outlines clear, to bring them more into harmony with each other, and to bring daily living more closely into harmony with them. What are the causes of deviations between our own and our looking-glass pictures? What are specific ways of eliminating the differences? What changes are needed in the present self to bring it in line with the desired self? Which traits need to be emphasized, which modified or obliterated, etc.? These and many other questions may be the starting points for worth-while meditation, and, later, for action.

The same procedure may be as helpful for specific habit patterns which one is striving to establish as for the total pictures of self. If one is attempting to overcome shyness and improve conversational ability, an imagined picture of one's self engaging in conversation possessed of the desired poise and self-confidence may be an actual help in developing these qualities, provided the experience eventuates in a mutual sharing of interests with others in actual conversation. Such a procedure need be neither artificial nor affected if it results in both inner and outer changes which help us to express our real selves to others.

How do we model our personalities from our sketched designs?

"Personality" development has caught the popular imagination in recent years, and this interest has been capitalized by many writers, lecturers, and self-styled "psychologists." For two or three dollars you can secure a book which promises to give you the secret of a "million-dollar personality," or which will enable you to "win a big prize in the game of life!" to "make people love you," and to acquire "instantaneous personality magnetism." Sometimes you are promised more conservatively that "in just a few short days this magic power can be yours." For twenty-five or fifty dollars' worth of lectures by traveling psychologists you are often assured of a successful personality.

Our preceding consideration of the growing personality should serve to make clear the utter fallacy of these attractive promises. Instantaneous change can no more be wrought in a personality than in a plant or tree. Assurance of one's ability to change may prove very helpful, but it will not achieve a metamorphosis by itself.

Actually the first step in self-direction is to recognize that the same laws and principles which have been operative in making us what we are must be applied and given a chance to work under our conscious direction to make us what we wish to be. The same process of habit formation which has been quietly at work throughout one's life developing habits and systems of habits represented in traits and behavior patterns must be utilized consciously to bring about the desired changes. A personality can be changed only as the interrelated systems of habits and attitudes composing it are changed.

Since most of our well-established habit systems have a large emotional content, it is usually less desirable merely to break up a habit than to substitute another desired one. Merely breaking off a habit leaves the emotional drive behind it uncared for and involves repression or inhibition which can cause trouble if not redirected in other channels. The energy back of the old habit can be utilized in the formation of new ones if dealt with properly. For example, one might substitute for frequent temper tantrums some constructive activity such as writing or working for a cause, or, at first, when sufficient control of the habit has not been achieved and anger with its visceral accompaniments develops easily, some hard physical work or exercise. The woodpile in the back yard has been a frequent outlet of surplus energy for many irascible dispositions.

Habit, like all conduct, involves a stimulus from the environment or within the individual, certain activity in the nervous system aroused by the stimulus, and the response in the form of behavior determined by the activity in the nervous system. One method of changing a habit is to avoid or eliminate the stimulus which starts the chain of activity. If, for example, one becomes irritated habitually in the presence of a certain individual, he can try to avoid that person on all possible occasions rather than attempt to change his response of irritation. However, shunning undesirable stimuli may also necessitate avoiding desirable ones, and thus may hamper or limit one's opportunities or activities considerably. Another habit-breaking method is that of making the habitual response so unpleasant that the drive to repeat it is weakened. Self-denial of pleasures or self-inflicted punishments may be attempted, although this will not eliminate the unused energy of the emotional drive. But the substitution of a new, desirable, and satisfying form of conduct need not include the disadvantages of the above methods. If procrastination with work is a troublesome habit, one can practice competing with one's self in reducing the time required for specific work, or map out a definite time schedule providing for much-desired activities to follow the completion of required tasks.

We can, however, use all three methods of changing habits in a consciously directed program of self-development. But since in adulthood opportunities for choosing desired surroundings, both physical and social, become increasingly greater, the

tremendous influence of environment becomes more controllable, although we are never completely free to choose our own environment. Where this choice is impossible there is always the opportunity of building up barriers to undesired stimuli, or of changing undesired responses to stimuli. The choice of stimuli which we shall *accept* and the conscious determination of how we shall *react* to them are two master keys to self-direction.

William James formulated four helpful and important maxims of habit formation which are summarized below:

In the acquisition of a new habit, or the leaving off of an old one, launch the effort with as strong and decided a start as possible. Provide yourself with all possible incentives and conditions for accomplishing the task you have set for yourself. New Year's resolutions, fraternity oaths, and pledges of various sorts are examples of effective beginnings for a new course of action, but unless carried beyond the first stage of enthusiasm they are of little value.

Never allow an exception to occur until the new habit is well established. "Each lapse," James says, "is like the letting fall of a ball of string which one is carefully winding up; a single slip undoes more than a great many turns will wind again." All initial enthusiasm may be lost with one break, and we are then thrown back in the task farther perhaps than our starting point. Continuity of training is the means by which a habit becomes fixed.

Seize the very first chance to act on every resolution you make and on every urge you may experience in the direction of the habits you wish to establish. It is not merely in the wishing but in the doing as well that habits are formed.

Keep effort alive by a little free practice every day. James believes that every day we should do something for no other reason than that we would rather not do it. Such practice, he maintains, strengthens our ability to meet successfully crises which arise in every life calling for indomitable will and effort. Practicing something new and different is also perhaps a basis for keeping young and adaptable instead of growing old and becoming fixed in our ways of doing and thinking.

Recent experiments with methods of eliminating undesirable habits have yielded some very interesting results. The habit of stuttering, for example, has been overcome by requiring the

victim of the habit to practice under supervision his precise mode of stuttering, until he is able to reproduce it perfectly by conscious effort. Then he must practice persistently on correct methods of vocal expression. This approach has been utilized successfully in the overcoming of several kinds of undesirable habits.

To use this method without expert supervision would probably be unwise since repetition of an act may result in either increasing or decreasing the probability of its recurrence, or may have no effect whatever, depending on the conditions under which it is performed. A habit such as stuttering usually has its sources deep in the subconscious life, and an individual would be likely to encounter much difficulty in trying to understand and control these factors unaided.

Important principles, however, for either making or unmaking habits can be deduced from such experiments. One should be thoroughly aware of the exact nature of the habit to be established or overcome, of reasons for its desirability or undesirability, of the probable sources or causes of an undesirable habit which is to be eliminated, and of the benefits to accrue from the making or breaking of the habit. Only thus can he mobilize his energies and direct his activities purposefully. *Conscious control and direction are the keynotes of effective habit formation.*

Establishing this conscious control includes not only definite and clear-cut purposes and goals, but also an understanding and analysis of all the steps between the setting and the achieving of the goal. What are the stimuli best suited to arouse the desired response and how can these stimuli be provided? What are the most economical and effective ways of practicing the desired behavior pattern? Blind straining for results without intelligent direction of efforts is largely futile. Fritz Kreisler, the violinist, is reported to have said that technique in his art is a matter of brain, not brawn; it is a matter of thinking before, and not as, or after, you play the note.

Flexibility, or facility in changing habits, is one of the most important results of attention to habit making and breaking. As long as we can retain this facility we have the potential ability to adjust to the changing conditions of life. We need not stop growing as we become older; we may even become more efficient in our learning in some respects. It is necessary, of

course, not to dissipate our energies in attempting to change too many unimportant details in living; it is also necessary to keep changes well integrated with the main currents of our lives.

There are several important skills which we must acquire if we are to sketch and model our personalities most effectively.

We need to learn *to evaluate our goals and our compensations* in order to avoid one danger in this process of self-development. The desire for superiority of some sort is apparently a general human characteristic. It is undoubtedly one motive force back of our ambitions and ideals and therefore a source of much of our human striving and achievement. When this craving for superiority results in really worth-while accomplishment, it is a desirable human motive which should be encouraged. Very often, however, it degenerates into a craving for a feeling of superiority rather than for genuine superiority itself. This striving for emotional satisfaction may result in numerous sorts of behavior likely to antagonize others and also in very unwholesome reactions within one's own personality. The social or intellectual snob is a common illustration of an individual who is trying to feel superior and who invariably antagonizes others by his efforts. Usually he fools no one but himself. A person with a strong introvertive tendency may, if he meets with frustration in the real world, retreat into the realm of his daydreams where there need be no limits to his superiority, and where he can escape from his feeling of inferiority or inadequacy.

It is important to recognize that inferiority and superiority are relative matters. If we are honest with ourselves, we can invariably find some individuals who are inferior and others who are superior to us in various respects. If we have developed emotional maturity and balance, we shall not be deeply concerned by our positions on the inferiority-superiority scale or struggle blindly for superiority. Rather we shall use our standards of value and knowledge of self to determine what are the worth-while goals toward which to work in achieving superiority, and we shall not be satisfied with the useless bauble of merely feeling superior.

A sense of inferiority about something is neither a pleasant nor an inspiring experience, except perhaps as some individuals have tried to make extreme humility seem a virtue and have

thus indirectly created the possibility for feeling superior. It is not suggested that we too readily accept or revel in our inferiorities. Knowledge of a limitation should eventuate either in overcoming it or in compensating for it in wholesome and worth-while ways. Compensation is an important principle to apply in efforts at self-development.

Examples of compensation may be found at every level of existence. Nature will compensate for a broken bone by making the fractured point larger and stronger than before; the loss of one sense such as sight may result in the fuller utilization of other senses to offset the lack. Likewise in our personalities we compensate to some extent for inadequacies, whether or not we direct the process. A crusty disposition may be as direct a compensation as an excrescence on a fractured bone. But if we assume conscious control and determine how we shall compensate, we can avoid many pitfalls. Desirable compensations may sometimes involve overcoming a personal limitation or mastering a difficult problem or situation; often, however, they involve the acceptance of some particular frustration philosophically and the substitution of other satisfactions. In determining or evaluating compensations it is well to ask one's self:

Have I yielded to a frustration too readily without putting forth sufficient effort to overcome it?

Have I wasted time and effort needlessly in struggling with a difficulty?

Have I secured really worth-while substitute satisfactions for apparently unavoidable frustrations?

Purposeful striving for real achievement and a degree of superiority in activities that will utilize our best potentialities, and conscious but wholesome compensation for our inadequacies are two of the best methods of overcoming undesirable trends toward introversion or extroversion, dominance or submission, dependence or self-sufficiency, or an unwholesome and handicapping inferiority or superiority attitude.

It has been suggested that we always tend to feel inferior in the presence of the "bogey" of the person we would like to be, and superior in the presence of the personality we have outgrown. If the meditation about the three pictures of self suggested previously is carried on in an objective manner, we can utilize these opposite tendencies to develop a sound, balanced

attitude toward self which may stimulate our best efforts to achieve.

We need *to improve our ability to understand others* if we are to succeed in reaching our goals. Many of the qualities of personality for which we strive are those which facilitate our relationships with others and thus result in improved social status, increased recognition, love or affection, and opportunities for self-expression. Without an understanding of those with whom we associate, our self-knowledge will not be especially helpful in the achieving of these goals.

In spite of the fact that no two people are exactly alike, there are many common modes of expression which will give clues to the inner life. Facial expression, tone of voice, gestures, mannerisms, general bearing, and a multitude of physical reactions are significant manifestations of self to him who knows how to interpret them. Of course, we all become fairly adept at masking our real selves in many ways, so that the ability to interpret these physical clues, as well as the spoken word, is difficult to acquire.

This social skill should not be striven for merely as a means of attaining selfish ends. Thus used it ultimately defeats its own purpose. As a means of entering more sympathetically and tactfully into the lives of others, it becomes an open-sesame to mutually satisfying social experiences.

Be tolerant and objective about self if you expect to be successful in modifying your personality. If you are somewhat dissatisfied with its present status, do not get impatient and attempt a revolution overnight. Start with a few traits which are hampering your present efficiency and work on these, and when you have gained skill in these efforts you will discover that you have more power to tackle some of your larger problems. Remember you have a lifetime in which to grow.

Do not allow yourself to become morbidly self-conscious about your faults or imperfections. We all have them. Humor yourself with a few foibles and whims about unimportant matters and save your energies for important things. Laugh at yourself a bit and then forget yourself a good deal of the time. Your mind will take care of a lot of things for you if you give it the right suggestions. Do not perpetually keep digging up the seeds you have sown to see if they are growing. Leave them alone some of the time, after you have planted them firmly

in the soil of good intentions and attitudes, and give them the encouragement of the sunshine and fresh air of an understanding, joyous, outward-reaching spirit.

PERSONAL INVENTORY

Following are some suggestions to guide you if you wish to try your hand at some purposeful sketching and modeling of your personality:

First, it is desirable to sketch a rough outline of the sort of personality you think you want and can develop, always checking this against your evaluated goals and compensations. This will serve as a needed model, enabling you to determine whether the details, as you study them, will fit into the total picture harmoniously.

And now for the details. Which of your present attitudes, ways of feeling or thinking, and specific habits should be eliminated to prevent incongruities, ugly contours, or imbalance in the picture? What new habits, including ways of feeling and thinking as well as specific ways of acting, should be introduced to fill in the outline and give desired high lights? If you compare these two sets of details, you may discover that some of the new ones may be directly substituted for the old ones; as we discovered, this process of substitution economizes time and effort and entails fewer inconveniences than some other methods.

The old habits you wish to eliminate from the picture should be sketched briefly so that you will have a clear-cut idea of each habit with which you wish to deal. Next analyze and describe the stimuli, either external, internal, or both, which arouse the reaction pattern. Consider whether these stimuli could be avoided without undesirable results. If so, plan how. If not, consider ways of training yourself to react to them negatively or of linking them up with a new and desired response—really a substitution of a new for the old habit. Then outline a plan of action to be followed in eradicating the habit.

This is, of course, merely the preliminary sketching which precedes the actual modeling. The next step is to take yourself in hand, as you would a bit of plastic clay, and exert the pressure of your will to bring about the desired result. Do not get discouraged if you encounter resistance. Persistent effort, coupled with increasing skill as you proceed, will turn the trick, if, in the sketching, you considered all the pertinent factors. If experience reveals that you did not, you may need to revise your sketch as you continue your modeling.

The process of introducing the new habits is very similar to that of eradicating the old ones. A new habit should be sketched briefly but clearly so that you will have a clear-cut idea of what you are working toward. Determine upon appropriate stimuli—both external

conditions and inner motives and attitudes—which will help to establish the habit. Outline a plan of action to be followed in establishing the habit. Then the same patient process of modeling your human clay into the desired contours must again be carried on.

The first efforts at this modeling may seem tiresome, but if you persist you will be well repaid by the joy and delight you will experience as you become aware of your increasing skill in bringing new expressions of life into existence. It is helpful, at least in the early stages of this activity, to check frequently on your progress in transforming your design into reality.

Chapter Thirteen

THE SUN ROOM

THE SOURCES OF HAPPINESS

Humankind in all ages have lifted up their arms to the sun yearning for its rays of light and warmth to enter their souls and bring them joy and happiness. How do these rays penetrate the clouds of unhappiness which so often envelop us, and work their magic in our lives? What keeps them out at times?

Let us go into our sun rooms and try to discover whence our happiness comes—upon what it depends.

Happiness is an ancient yet ever new theme song. Poets and philosophers, essayists and novelists have played many variations of the theme. In our own generation the mental hygienists have found in it the keynote of their envisioned symphony of life. One mental hygienist has emphasized this keynote to the point of saying, "Assume that the unhappy are always wrong." However that may be, we are all guilty at times of introducing some dissonance into the human symphony.

Some philosophers claim that happiness can never be achieved through direct striving for it, that it comes only as a by-product of right living. Only recently, and then within selected groups, has happiness been studied objectively.

Self-estimates of happiness and the factors contributing to it as evidenced by responses to a questionnaire submitted to 388 graduate students, averaging thirty years of age, were studied recently by Goodwin Watson of Columbia University. The more challenging findings of this study of happiness were brought together by Watson in the form of hypotheses, a few of which are included here. He warns that since these are stated tersely they appear more dogmatic than the selected group upon which they are based would warrant, also that the proportion of error in the statements is uncertain but considerable.*

Failure in love is a major cause of unhappiness.

Enjoyment of, and success in, work is a factor in happiness.

*In "Happiness among Adult Students of Education," *Journal of Educational Psychology*, 21: 77-109, February, 1930.

Popularity matters.

School marks do not matter.

Success in dealing with people is fundamental to happiness.

Religion, of the modern type, is not merely an escape for the unhappy.

Youth is not the golden era of happiness; neither is age.

The comparative wealth of parents does not affect the happiness of children.

Quarrelsome parents, divorced, seem to hurt a child's happiness less than the same parents remaining together.

Participation in athletics is not significant for or against later happiness.

Ability at dancing, cards, athletics, writing, music, or painting is unrelated to happiness.

The married are happier than the unmarried.

Men believe themselves happier than women believe themselves to be.

Blessed are those who are elected to many offices.

Love of nature goes with greater happiness.

The essentials of happiness for most people are among the stable elements of life (friends, work, nature), not among the stimulants (alcohol, clubs, dancing, cards, automobiles, or arts).

Fears, sensitiveness, shyness are rightly regarded as major factors in unhappiness.

Happiness is associated with serious, deliberate, responsible, earnest, hard-working living rather than with impulsive, light, amusing dilettantism.

To discover whether the opinions of students younger than those included in Watson's study differed materially concerning the sources of their happiness, a questionnaire was submitted to 250 junior-college students at Pasadena, California, in 1931. In checking the items listed, the students indicated those contributing to their present happiness or unhappiness and specified which items contributed a great deal to either state. They also checked the items which they believed would contribute materially to their *future* happiness or unhappiness.

It is interesting to note in the following lists that although entertainment in the form of reading, sports, automobile riding, conversation, theater going, and listening to the radio received primary emphasis, health was considered the outstanding source of happiness. Significant also may be the fact

that marriage did not figure so prominently in the ratings of these younger students as it did with the older group, although lack of friendships with the opposite sex was believed by the younger group to be an important source of unhappiness.

Items most frequently checked as contributing to present happiness:

(Starred items in these lists were those checked most often by students as contributing a *great deal* to happiness or unhappiness.)

*Health.

*Reading for entertainment.

*Outdoor sports.

*Automobile riding.

Conversation with friends.

*Theater going.

Listening to the radio.

*Intimate friendships with members of same sex.

Opportunity for self-direction.

Ability to get along well with people.

Attendance at athletic contests.

Tolerance or broad-mindedness of parents.

Church attendance.

Companionship and recreation with family.

Certainty of vocational choice.

*Active participation in athletics (for men).

Personal appearance.

*Academic success.

Wide acquaintanceship among members of same sex.

*Dancing.

*Intimate friendships with members of the opposite sex.

*Relationship with parents.

Personalities of teachers.

Recognition of others' achievements.

College social events.

*Harmonious relationship between parents.

Religious faith.

Clothes.

Items most frequently checked as contributing to present unhappiness:

Poor academic work or academic failure.

*Being ignored or slighted by others.

*Intolerance or narrow-mindedness of parents.

***Loafing.**

Inability to get along well with people.

***Lack of wide acquaintanceship among members of same sex.**

Failure to realize ambitions in athletics.

***Lack of intimate friendships with members of opposite sex.**

***Lack of wide acquaintanceship among members of opposite sex.**

***Lack of opportunity for self-direction.**

***Lack of privacy in the home.**

Conflicting interests affecting vocational choice.

Ridicule or teasing by others.

***Friction between parents.**

***Lack of companionship and recreation with family.**

***Lack of intimate friendships with members of the same sex.**

***Apparent disability to prepare for desired vocation.**

Handicap for entering or succeeding in desired vocation.

Religious doubts.

Inability to participate in athletics.

Deformity or special physical disability.

Inharmony between interests and vocational choice.

***Uncertainty of vocational choice.**

Conflicts between religion and other aspects of life.

Factors most frequently adjudged as probably contributing to future happiness:

Health.

Intimate friendships.

Outdoor sports.

Relationships with parents.

Reading for entertainment.

Conversation with friends.

Theater going.

Church attendance.

Automobile riding.

Vocational choice.

Ability to get along well with people.

Companionship and recreation with family.

Opportunity for self-direction.

Harmonious relationship between parents.

Dancing, clothes, and radio.

Reading for enlightenment.

Tolerance and broad-mindedness of parents.

Success in academic work in college.

Wide acquaintanceship.

Marriage.

Factors most frequently adjudged as probably contributing to future unhappiness:

Lack of intimate friendship.

Lack of opportunity for self-direction.

Loafing.

Ridicule, criticism, or being slighted by others.

Inability to get along well with people.

Uncertainty of vocational choice or insufficient preparation for vocation.

Academic failure or poor academic work.

Lack of wide acquaintanceship.

Deformity or specific physical disabilities.

Conflicts between religion and other aspects of life.

Lack of companionship and recreation with family.

Friction between parents.

Mistakes in judgment or conduct.

Nonconformity to prevailing conventions or customs.

Handicaps for entering desired vocation.

Daydreams.

Comparison of these judgments of first-year junior-college students with those of the more mature graduate students suggests that the sources of happiness and unhappiness may change considerably from adolescence to adulthood. The emphasis in both groups upon friendships, successful relationships with other people, and success in work (vocation with the graduate students and academic work with freshman students) is important to note. The fact that some things, considered by the younger students as important with respect to their degree of happiness, did not figure largely in the older group's state of happiness should challenge thought. Clear thinking about the matter might well help to give the younger persons, unhappy over present conditions, a desirable perspective on life, and cause some to question whether they are laying the best foundations for real future happiness.

We have reviewed some judgments of youth and those approaching middle age as to the important sources of their happiness. What of old age? Some studies of this period in life, as well as our everyday observations, reveal many poignant pictures of lives reduced to barren emptiness by the gradual extinguishment of the fires of ambition or achievement, the sloughing off of friendships and varied interests, and the

limitations imposed by waning powers. But need this be? Does the life cycle compel us to return to a state of infantile impotence and self-centeredness if we live to a ripe old age? True, the magic of science has lengthened the average life span and has postponed oftentimes the waning of powers, but no fountain of eternal youth has yet been found. Those who would trust their happiness to the hope of retaining their youthful powers or charm would seem to be following an elusive will-of-the-wisp leading them into the bogs of hopeless frustration.

Yet the picture of old age is not so dark as our first glimpse here might imply. New lights are brightening the picture. Recent psychological studies indicate that the ability to learn is not the exclusive property of youthful minds. Either we, ourselves, or our life conditions have imposed needless limitations in this respect upon the latter half of life. Also, we have yet to discover whether our new Power Age with its increased leisure time for the pursuit and development of varied interests will help to remove some of the physical and mental shackles which have in the past bound age. Another means of unshackling old age is a social consciousness coupled with a social control which will prevent the corroding effects of dependence upon others by dignifying old age with its just due of independent sustenance.

But we can find many inspiring pictures of those who, even without these aids, have lived graciously, valiantly, and to our vision happily through their declining years, adjusting their ways of life to their powers and thereby increasing or prolonging them, maintaining their interest in and zest for life, and enlarging their own lives by merging them harmoniously into the streams of our common life. What is their secret?

Each life holds the secret of its happiness within itself. We must find or make the keys which will unlock our own sun rooms. Our task is simplified, however, by certain principles of wholesome living placed at our disposal by science and accumulated human wisdom. They will prove an open-sesame only as we apply them with intelligence and patience. What are these principles?

One of the first requisites for wholesome living is *an understanding of our personal assets and liabilities, our potential capacities and limitations*. We have been attempting to lay the

foundations for this understanding during our journey together. We have viewed ways of taking stock of some inherited potentialities and surveyed various sorts of formative environmental influences which may affect personality. We have also considered how an individual's unique qualities are developed through interplay of these two factors, heredity and environment, some ways for discovering and measuring these qualities, and ways in which they may prove assets or liabilities. If you have consistently applied this discussion to yourself, you should have acquired considerable self-knowledge to use as a basis for planning and conscious direction of future growth and development.

Another requisite for wholesome living is then the setting of *attainable and flexible goals in harmony with the understanding of self*. In setting up goals for self-development as well as for objective achievement, it is important that we have before us some which can be attained without too great effort. Without goals beckoning us on, we can easily become lost in a morass of indecision and momentary pleasures, but with too ambitious or unattainable goals we may become discouraged and with a sense of failure or defeat turn aside, agreeing with Ulysses that,

. . . all experience is an arch wherethro'
Gleams that untraveled world, whose margin fades
Forever and forever. . . .

This does not mean that we should not have high ideals and ambitions to spur us on, but merely that we should set up attainable, intermediate goals along the way to give us a sense of victory at times and the courage "to strive, to seek, to find" the ideal world and make it real.

The setting up of attainable goals is dependent upon self-knowledge and this in itself is a goal which none can attain with perfection in a lifetime. A self-analysis such as we have attempted is only a starting point and can at best but survey the ground, lay the foundations, and help to develop a technique which should be used with increasing skill as the years pass and life's experiences become richer and fuller and draw more deeply upon our potentialities. This means, of course, that, as we gain fuller self-realization in the process of growing, our goals of achievement must be flexible and grow with us. In this way our lesser and attainable goals become landmarks

on life's pathway and our highest goals become directive points which guide us without discouraging us because of our inability to reach them.

A technique of living based on principles of mental hygiene is the third requisite we shall consider. What are the basic principles of mental hygiene?* Anything which promotes wholesome adjustments in any aspect of living contributes to our mental health.

Learning to face facts with courage and optimism is one of the most significant conditions for healthful mental activity. We have already noted how evasion of reality may prove a pitfall in our development. Everyone has to face both pleasant and unpleasant facts, some of them inherent in external conditions and some of them inherent in one's self. Neither morbid brooding over difficulties nor failure to recognize them will help to solve them. The first method may cause one to exaggerate them, and the second to undervalue their seriousness. Neither method is favorable to an objective analysis which may point the way to desirable solutions. If after objective study there seems to be no escape from an unpleasant fact or situation, the only sensible alternative is that of calmly accepting the inevitable and directing efforts toward making the best of the situation.

All of us would like to change some unalterable aspects of self if we could. We all have our weak points which may cause us to feel inferior or dissatisfied at times. We may gain consolation from the fact that this condition is common to all human beings, and our problem is that of making the *most* of our strong points and the *best* of our weak ones.

We all have our ups and downs in life also. Blaming our defeats upon circumstances or other people or securing our successes in our daydreams is both futile and ultimately unsatisfying. Objective analysis of both defeats and successes may give us some of our deepest insight into the factors that make for efficient happy living.

Facing reality as suggested here involves the scientific attitude of mind, a basic essential for self-study and orientation

* Many lists of rules or principles of mental hygiene have been utilized in developing the list included here. Burnham, William F., *The Normal Mind*; Riggs, Austin Fox, *Just Nerves*; Menninger, Karl A., *The Human Mind*; LaRue, Daniel Wolford, *Mental Hygiene*; and Burks, Dr. Barbara S., *For Wholesome Living* (unpublished list) have been the sources most heavily drawn upon.

in life. It involves openmindedness, an effort to secure the facts—no easy task in our complex world—and a willingness to accept and deal with them when found. It frequently involves the discounting of feelings as relatively unimportant.

Learn to compensate in constructive ways for the unpleasant facts in life which are unalterable. This is the next step beyond facing facts. The emphasis here upon accepting and compensating for unalterable conditions should not be construed as underestimating the desirability of striving to improve self and environment in all possible ways. It is merely to warn against useless and unhealthy techniques of living. History is replete with the accomplishments of those who have compensated in various ways for physical weakness or defect, or who have achieved under the most difficult circumstances. Theodore Roosevelt is an excellent example of one who overcame the physical frailty of his youth by rigorous training and who was not deterred from voracious reading by the loss of an eye. Our weaknesses may oftentimes become our stepping stones to successful achievement. More often, however, the healthy form of compensation involves minimizing weak points and discovering and nurturing strong points.

Keep physically fit. A regimen of living which allows for a desirable alternation of work, rest, and recreation, and suitable exercise and food is a basic essential for both physical and mental health; also attention must be given to remediable defects which may impair vitality or hinder effective living.

Attend to the present situation. Dr. William H. Burnham has emphasized the great importance of this condition. "The type of healthful attention is everywhere attention to the present situation. So important is this for mental health that one's ability to concentrate upon the present, ignoring the past and future except as vitally related to the present, is, in a certain sense, a gage of one's sanity."*

Anxiety or worry about the past or future is often a beginning and a cause, as well as a characteristic symptom, of mental breakdown. Dr. Austin Fox Riggs has defined worry as "a complete circle of inefficient thought whirling about a pivot of fear. To avoid it," he advises, "consider first whether the problem in hand is actually your business. If it is *not*, turn to

* Burnham, W. H., *The Normal Mind*, by permission of D. Appleton-Century Company, New York.

something else. If it is your business, decide next whether it be your business *now*. . . . Do one thing at a time."* The frequent conflict between the social need to work for distant ends, foregoing the pleasure of the moment for future good, and the fundamental need of giving attention to the present situation causes many problems which may impair healthful living for the individual.

Have many interests. Do not carry all your eggs in one basket. Have so many interests that the loss or impairment of one will not be a devastating experience. One interest, such as a vocation, may be the dominating or central interest, but the others will help to keep your development well balanced and will add zest and fullness of satisfaction to living. Share your interests with others and their value will be enhanced manyfold.

Find desirable and adequate means of self-expression. No impression without some expression is an important principle of mental hygiene, but the effective control of both impressions and expressions is an equally important corollary.

The need for adequate means of self-expression is indicated in the physiology of the emotions. During a state of worry, fear, or rage, the increased secretion of adrenalin into the blood serves to mobilize energy for vigorous action. If no action occurs, the nervous tension involved is unrelieved and unnecessary nervous strain results. Of course, the direct and spontaneous expression of all inner drives to action is both impossible and undesirable. The problem consists of controlling and directing impulses instead of merely repressing them. Substitute a desirable reaction for an undesirable one or sublimate the energy of a drive through various channels of interest and activity. "Every interest is potentially a means of self-control" and an aid to adequate self-expression.

The wholesome reaction to stimuli from within is as important as the reaction to external stimuli. Daydreams and reverie need to be watched and controlled. Reverie has been called the inner workshop of personality. We cannot direct our growth without controlling and directing our reverie. One effective means of control is to become thoroughly interested in the outside world and thus turn our attention and energies outward instead of centering them on ourselves.

* Riggs, A. F., *Just Nerves*, by permission of Houghton Mifflin Company, Boston.

Adjust your environment and way of life to the strain you can stand. We all live constantly amid a veritable barrage of stimuli, only a small portion of which we actually attend to or perceive. The barriers which we build up against this multitude of stimuli are a means of self-preservation. Burnham stresses, however, the importance for mental health of optimum stimulation and response. He says,

The vigorous explosion of nervous energy seems to be an essential for thoroughly normal functioning. Excitement even seems to be necessary. Only those who could endure excitement have survived in evolution. The human race has come up through excitement of every kind. Excitement within limits seems to be normal and hygienic. It is a tonic to the mind like vigorous exercise for the body.*

LaRue on the other hand cautions against too high tension and says, "Leave thunderbolt thrills to the blasé."

In determining what is a healthful environment and way of life, one should consider not only the degree of stimulation and excitement which is desirable generally in living, but also the desirable limits of strain in vocational activity. This factor should be weighed from the viewpoint of both physical and mental demands before a life work is chosen.

An excellent suggestion for the conservation of energy is contained in Riggs's statement, "Be efficient in what you do. . . . In short, do not drive your tacks with a sledge hammer. There is a better, less fatiguing way. Find out how easily you can do things well, and take pride in such skill."†

Achieve some successful and satisfying social relationships. Social relationships are as necessary for mental growth as are food, water, and air for physical development. Individuals vary considerably in their ability to make social contacts of a harmonious and happy sort. These differences are probably due partly to innate differences in temperament and disposition, but are largely the result of differences in developed attitudes and habits which may antagonize or displease others, or attract and please them. Some persons seem neither to attract nor repel others, but merely to fail to secure their attention. This

* Burnham, W. H., *The Normal Mind*, by permission of D. Appleton-Century Company, New York.

† Riggs, A. H., *Just Nerves*, by permission of Houghton Mifflin Company, Boston.

situation oftentimes causes as much unhappiness as distinct unpopularity, since it is natural for every human being to desire the attention and recognition of his peers.

It matters not, especially for mental health, whether these social contacts involve a followership or leadership relation to the group. The important thing is to enter whole-heartedly and unselfishly into the lives of others and to be able to identify yourself with groups and individuals in a way to broaden and objectify your interests. Cooperation in a cause greater than self is one of the best means of developing a finer self.

Complete submergence in a group with the resulting loss of normal aggressiveness is not a healthful condition, however. Dr. Burnham has summarized the nature of healthful social relations succinctly in the following words: "To act with others as follower, or leader, to serve, to cooperate, on occasion to resent, or to fight, represent healthful attitudes and healthful forms of activity; to deceive, to act cruelly, to be suspicious, to hold a grudge, represent unhealthful as well as unsocial mental attitudes."* Love represents the healthful and hate the unhealthful aspect of the social emotions.

Develop a good balance between self-reliance and a normal sense of dependence. A normal sense of dependence is an important condition of mental health, first a dependence on parents, later on social groups, and eventually also upon something higher, such as ethical standards, ideals, etc. This sense of dependence, however, should be balanced by a normal self-reliance which is essential to growing up. This self-reliance should develop out of success in suitable tasks which produces a positive attitude of confidence in attacking progressively more difficult tasks.

Learn to recognize evidences of unhealthy reactions in yourself and to deal with them effectively. We have dealt somewhat extensively in previous chapters with pitfalls in normal development and with unhealthy trends, for the purpose of giving the reader a background for applying this principle of mental hygiene to himself. Recognizing the unhealthy tendencies for what they are is half the battle, and this understanding combined with a thoughtful application of mental-hygiene principles should enable one to develop a successful technique for dealing with these deviations.

* BURNHAM, W. H., *The Normal Mind*, by permission of D. Appleton-Century Company, New York.

One important characteristic for successful work of this sort with self, as well as for general mental health in all life activities, is a sense of humor which can be directed toward self as well as toward others. The ability to laugh at yourself sometimes instead of taking yourself too seriously is one of the best preventives of mental ill health. If the humor directed toward either self or others is free from ridicule or malice, it is a very positive aid to a fairly consistent cheerfulness and sense of happiness in living. Plato undoubtedly expressed a profound bit of wisdom when he wrote that nothing in human affairs is worth any great anxiety.

PERSONAL INVENTORY

Perhaps you would like to check on the extent to which you are now applying these principles of wholesome living. If so, number from 1 to 36 in your diary or on a sheet of paper, and draw three columns to the right of these numbers, heading the columns from left to right "Usually," "Sometimes," and "Rarely." Then read over the numbered statements below and enter a check (✓) in the column after each corresponding number which best answers the question for you. Think of your reactions over the past few months.

A scoring key against which you can check your responses is given on page 323. After you have noted how many of your answers agree with those in the scoring key, it would be worth while to check back over the list and encircle the numbers of statements which you answered as "Usually" when the scoring key gave "Rarely" as the correct response, or "Rarely" when the scoring key gave "Usually." These might well be studied carefully with a view to determining how you might reverse your reactions on these points.

	Usually	Sometimes	Rarely
1. Are you willing to face unpleasant conditions or difficult problems squarely and try to improve or to solve them?			
2. Do you tend to grieve for some time over failure, disappointment, or loss instead of trying to make the best of it?			
3. Do you dream about things you wish to do instead of planning and working to achieve them?			
4. Do you worry and feel chagrin over your limitations or handicaps instead of compensating for them?			
5. Do you feel that other people or circumstances have prevented you from accomplishing many things?			
6. Do you recognize and try to make the most of your strong points without feeling conceited about them?			
7. Do you feel dissatisfied with yourself and with life?			
8. Do you make reasonable efforts to improve or overcome your weaknesses or defects?			
9. Do you find substitute satisfactions for the things you would like to do but cannot?			
10. Do you feel jealous of other people?			
11. Do you try to get even with people who slight you or treat you unfairly?			
12. Do you keep physically fit?			
13. Are you able to give your complete attention to a problem at hand without worry or irrelevant ideas about other things interfering?			
14. Do you have several different things you like to do so well that you anticipate them with pleasure?			
15. Do you have enough interests so that the loss of an important one would not make you unbearably miserable?			
16. Do you like to share your interests with others?			
17. Do you have many desirable means of self-expression?			
18. Do you feel bottled up within yourself with no way of expressing how you think or feel?			
19. Do your daydreams and reveries harmonize with what you would like to be and do in real life?			

	Usually	Sometimes	Rarely
20. Does your life seem monotonous and uninteresting?			
21. Do you feel excited and jumpy or emotionally upset?			
22. Do you feel so under pressure to hurry that you do not take time to relax?			
23. Are you efficient in what you do? Do you find out how easily you can do things well and take pride in such skill?			
24. Are you deeply interested in something outside of yourself?			
25. Are you sincerely interested in the welfare and happiness of people other than yourself?			
26. Can you gain pleasure from the achievement and successes of others as well as your own?			
27. Do you have some successful and satisfying social relationships?			
28. Are you sufficiently interested in any cause or group of people to be willing to make personal sacrifices for it?			
29. Do you work easily with others, either as a leader or follower?			
30. Do you enjoy hurting another person's feelings?			
31. Are you likely to be suspicious of the motives of others?			
32. Do you tend to hold grudges?			
33. Do you lack confidence in your ability to make wise decisions about most everyday problems?			
34. Do you like to feel completely independent of all other people?			
35. Can you face unhealthful trends in your personality and try to deal with them without emotional upset?			
36. Can you have as good fun laughing at yourself as at others, when the joke is on you?			

Part Three

The Architect's Plan

Chapter Fourteen

THE BLUEPRINT

THE TOTAL PLAN

Now we shall halt our journey of discovery and exploration to take stock of our findings and to determine the next steps.

All of us, either consciously or unconsciously, are continuously developing blueprints of our lives, and these blueprints are in turn shaping the growing structure. Perhaps you have never been aware of the existence of your blueprint or have never studied its specifications. Or perhaps you have been drafting the general plan, sketching in some details, or planning modifications while on this journey. You may even have several plans from which you are trying to choose.

Whatever the status of your blueprint, let us consider *some essentials of a well-balanced and workable life plan*, against which to check the general features of our own present or contemplated plans.

It is generally conceded that any comprehensive life plan should include three major fields of interest and activity: work, play, and love. In a well-integrated life these are not three distinct spheres of activity, but are like interlocking directorates, each of which has some of its elements in common with the others, and among which there is reciprocal influence or interplay. In general, one's vocation or career will be the hub or center of one's work interests, avocations and friendships the center of one's play interests, and family and home the center of one's love interests. Some might wish to add a fourth sphere including religion and spiritual aspects of life, though to others these would interpenetrate or be an integral part of all aspects of living. Each one must develop his own concept here, depending on the nature of his philosophy of life.

Before examining each of these three aspects of our lives, let us view the relationships which exist among them. Do you recall the varied "selves" which you glimpsed in the crystal maze?

Probably most of these selves can be grouped around these three major centers of life interest. However, it is desirable that we achieve more integration of personality than would result from this threefold grouping. Our blueprint should ideally specify an integration that interrelates and harmonizes all of our varied selves. This unification can best be achieved through a "total self" which comprehends and dominates all the others.

One person may find in his work or vocation the central dominating interest which brings unity and satisfying meaning into his life; another may find it in his love and home life; and still another in his friendships and leisure-time recreation. The important thing is to find it somewhere, for otherwise one has no steady focus on life. In building up these dominant interests it is wise to consider the seemingly harsh and cruel but undeniable fact that the deepest and apparently most stable work interests or the most cherished love or friendship may, in some way, elude one and leave one high and dry without a guiding star if that which has been lost had become the dominating factor in one's life. It would sometimes seem that within one's self lies the only stable, dependable element in life and that stability of personality depends upon finding the true center of one's own being and reaching out from here to encompass the work, play, and love which help to give life its meaning. This need not be in any sense a selfish or self-centered process, since without an outward-reaching spirit life would wither at the core.

What is a successful life? Probably no one final answer can ever be given to this question. Each of us has an answer which is the product of our past experiences and which changes with our new experiences. It is the manifestation of whatever meaning we attach to life.

During a period of conquest and development of material resources, material values often predominate in a civilization. We are still living in the shadow of perishable wealth values which motivated the ambitions and efforts of many in past generations. Also, a young civilization, like a young person, tends to be self-conscious and to desire social approbation. Hence, social prestige has become one of our gods. These standards of success need to be examined and reevaluated today in the light of new life meanings.

Recent developments in our economic life have forced the failure of many if judged by these standards. They have also

caused many to search for new meanings and therefore new values in life. More and more we are recognizing that success or failure cannot always be judged in terms of tangible external achievements, that man does not live by bread alone, and that out of his spirit may come a richer and more abundant life than that which issues from the struggle for wealth and prestige. This recognition marks an important milestone in man's coming of age.

What group standards of success are emerging today? It is rather audacious to attempt to formulate such intangibles, but, if the spirit of the times has been judged aright, it would seem that social understanding and social cooperation on the one hand, and the development of one's best potentialities as an individual on the other hand, are becoming two stable pillars in the arch of our life values for which the keystone is abundant happy living.

This interpretation of emerging life values would suggest the desirability in a well-balanced life of another sphere of interests in addition to those already mentioned—that of civic or social service. Vital social interdependence has become such a reality that we can no longer afford to overlook it in our life planning. None of us can work, play, or love unto himself alone, and only as we study our common human problems and cooperate in the development of improved social controls can we create an environment in which we can build our lives out of imperishable verities instead of unsatisfying perishables.

But now let us examine each of the three major divisions of the plan.

Chapter Fifteen

PURGATORY OR PARADISE?

MARRIAGE AND HOME

Choice of a life mate and establishment of a home constitute for the majority of human beings life adjustments of major importance. Relationships in the home are fraught with possibilities for realizing an earthly paradise or a purgatory of torment and despair. They may serve, on the one hand, as the basis of the finest self-realization and the inspiration for effective happy living, or, on the other hand, as the source of conflict and disintegration of self, leading to general ineffectiveness and unhappiness in living. They may give wings to our souls or burden us with millstones.

One of the steps in determining which condition shall prevail in one's life is the choice of a life partner. The significance of this step is emphasized by Dr. Leo Baeck in the following statement:

His own life's lot, the fundamental fact of his life, has been drawn and prepared for every human being. He has not created the primary and deciding fact in his life; rather, it has created him. He has received the lot of birth, and has been born without his choice. But another bond in his life which is of similarly fateful importance, of a similar capacity for determination and encompassment, is effected by man himself; it belongs to his own will and to his own doing. When two human beings are united in marriage, they represent to each other the inception of a destiny which is to become the arena of their life's fate. However much desire and illusion, the power of the attractive and the destiny of the fascinating have seized on them and hold them, they still determine for each other their whole life's formation, their place in the world, their horizon. It is thus that two beings let their lives be born unto each other. Marriage becomes the second lot in life, the second fact of life.*

* Keyserling, Count Herman, *The Book of Marriage*, by permission of Harcourt, Brace & Company, Inc., New York.

It is difficult to understand why a human relationship so important both to the individual and to the group as the face-to-face personal relationship in the family has been so thoroughly neglected in our educational system. Society lays down regulations as to how the relationship shall be formed and how it may be terminated, if unsuccessful, but the acquisition of the understanding, skill, and artistry of living needed to make it a success and productive of its potentialities for self-realization is largely left to chance. Some colleges and universities are beginning to try to meet the demand or desire of young people for enlightenment regarding this aspect of life. Beginnings have also been made in some public-school systems and in some social agencies such as the Y.M.C.A. and Y.W.C.A. The majority of young people, however, still have but little to guide them except parental or friendly admonitions, their own limited observation, and blind impulse, in a field of human endeavor which might well call for the wisdom of a Solomon and the technique of an artist. The pity of it is that there is a wealth of scientific information and of pooled human experience which could shed much light on this phase of life, prevent much blind groping, and lessen the need for trial-and-error methods.

Since we are dealing here with only the broader outlines of our life plans, we shall consider a few major questions which should confront every person who is trying to plan his life intelligently.

Is marriage a desirable state? The answer to this question depends partly, of course, upon what criteria are used to determine desirability. If happiness were chosen as one criterion, it is possible to find on the one hand unmarried people who seem to have made satisfying and happy life adjustments, and on the other hand married people who have failed to achieve happiness. Watson's investigation of happiness with graduate students of education indicates that the married tended on the whole to be happier than the unmarried. Data are lacking on this point to draw conclusions very helpful to a particular individual. Groves and Ogburn in their study *American Marriage and Family Relationships* have presented some interesting data on other aspects of this question. In the United States in 1920, about one in every ten persons over forty-five years of age had never married as compared with practically universal marriage in primitive times and even now among primitive peoples. Comparisons of the status of married

and unmarried persons in various respects showed for one thing that the death rate of single men, including the widowed and divorced, is nearly twice as great as the death rate of married men, while there is little difference between the death rate of single and married women. The death rates of widowed and divorced men and those of women would seem to invalidate the argument that the differences are due to the fact that the more healthy marry, and all these data would seem to suggest that married life is more healthful than single life for men at least. Other data showing more insanity and crime among unmarried than among married men and women would lead to the presumption that marriage may be a desirable state with respect to these conditions also, though the factor of selection of the fittest for marriage may help to invalidate the conclusion.

For the great majority of unmarried people who desire marriage as a fundamental aspect of their lives, it is important to consider how to find and choose a life mate and how best to prepare for successful married life. For those already married the pertinent question is how to realize the finest opportunities inherent in the marriage relationship. For both groups a problem of the utmost importance is how to build an environment in the home which will further the growth and development of healthy, happy children. A desirable solution of this problem oftentimes gives a satisfactory answer to the question of how the parents are to achieve the truest self-realization and happiness.

What considerations should enter into the choice of a life mate? The standards of choice should be formulated from at least two points of view, requisites for a companion and requisites for a parent, if the twofold purpose of a family is to be realized. For companionship, a community of interests and compatibility would be two basic essentials, and for parenthood, health and a sound family heritage should, undoubtedly, be the first considerations. Beyond these the list of criteria for choice could be extended indefinitely and would vary considerably among individuals, depending upon their ideals and tastes.

Ideal standards of what is desired in a mate may grow out of one's own experiences and personality tendencies or may be acquired from external sources. It is generally conceded that the parent of the opposite sex, if admired, is likely to serve as an ideal standard. This is probably desirable in many cases, but difficulty in marriage often results from carrying over into what

should be a give-and-take relationship the expectancy of a parent-child relationship in which the wife becomes a mother substitute or the husband a father substitute. Where the ideal standard is of one's own making, it is important to consider whether it is the result of projected self-love of an immature sort which may diminish with greater maturity, or the outgrowth of more unselfish, cooperative, social experiences and hence likely to grow and expand with new experiences. Like any ideal it is seldom attained in perfection.

In a recent study of 250 successful families, the subjects described what they considered ideal wives and husbands. Dr. Chase Going Woodhouse,* the author of the study, notes a great similarity between the pictures of the ideal husband and the ideal wife:

What we really arrive at is a picture of a "fine person," an affectionate, loyal, honest companion; courteous, understanding, sympathetic, and cooperative; intelligent, with good judgment and common sense; well equipped to handle his particular job; a person with an optimistic outlook, capable of creating and of enjoying happiness; a person with a saving sense of humor, a person with a modicum of artistic appreciation and imagination—in short, a person with qualities which make him easy to live with and thoroughly worth while; in a word, an "adequate personality."

Newell W. Edson† has suggested the following tests of a wise choice of a mate:

Sex attraction and genuine love as the first essentials.

Genuine interest in the person.

Community of tastes, ideals, and standards with no serious clashes.

Greater happiness in being with this person than with any other person.

Real unhappiness when the other is absent—not mawkish sentimentality, but a genuine longing to be with the other.

A feeling of comradeship.

A willingness to give and take, to give one's best and to take with serenity and happiness what the other gives.

The disposition to give fair consideration to the judgments of the other, involving both a sense of fair play and a recognition of the worth of the other's judgment.

Pride in the other as to appearance, bearing, approach to others, and vice versa, when compared with other persons.

* In *Social Forces*, 8: 511-532, June 1930.

† "Love in the Making," *Journal of Social Hygiene*, 11, 272-282, May, 1925.

A wealth of things to say and do together, *e.g.*, music, books, drama, art, and outdoor life.

Anyone desiring a list to use for his own purposes may develop it out of his study, thinking, and experiences. Those included here are for the stimulation of thought and for comparison.

The problem of finding a life mate oftentimes presents as many difficulties as choosing one. Dr. Paul Popenoe, director of the Institute of Family Relations at Los Angeles, has declared that, among educated classes, more marriages result from association in school and college than from any other source and that these marriages are conspicuously successful. Varied social and recreational activities afford opportunity for meeting and associating with many types of personalities and for determining which qualities of personality in others are best suited to one's own. Fine companionship and friendship also help to develop and improve one's standards of what qualities are to be desired both in one's self and in friends and close associates. Without this broadening and stabilizing influence there is more danger of being swayed by momentary infatuations which experience has shown rarely result in a growing lasting happiness.

What are some essentials for successful married life? One way of determining what is necessary for successful home life is to study the sources of dissatisfaction and discord among married people, and the causes of broken homes and divorce. There are many available sociological studies of the causes of divorce, but most of these deal primarily with the superficial and legal rather than with the basic explanations of difficulties.

Another method of gaining some insight into the factors that make for happy or unhappy adjustments in marriage is to study the opinions of those who have experienced either state. In the course of an intensive study of the married life of 100 men and 100 women in New York carried on by Dr. G. V. Hamilton, the subjects were asked how they would make over their mates if they could do so. In the proposed alterations, both men and women placed the greatest emphasis on mental and temperamental qualities. The men put physical changes next and changes in habits last. The women put habits above physique.

The group of successfully married persons studied by Dr. Woodhouse mentioned 2,208 essentials for a successful home.

Grouping these essentials under a few headings and listing them in order of emphasis in the replies of the subjects, we have first, attitudes, personal traits and relationships, and then economic factors, ideals, social training, education, and health.

This emphasis upon personal qualities would suggest three lines of desirable preparation for marriage: first, self-analysis with a view to the development of a more livable personality; second, sufficient self-knowledge to judge wisely as to requirements for compatibility in a mate; and third, an understanding of the basic requirements for harmonious personal relationships and the willingness to develop the requisite qualities within one's self.

The first and third points mentioned above might well serve as departures in self-analysis and planning for those already married who wish to improve their opportunities for marital success and happiness.

We have studied the problems of personality development sufficiently to make clear that one cannot change radically in a moment. An individual will bring into a newly established home relationship the personal qualities he has been developing during his past life, and these will inure to the happiness or unhappiness of both partners. All previous living is thus a preparation for marriage, and adolescence, when the personality is still plastic, is the best time to start conscious preparation. Emphasis is thus placed not only on what one desires in a mate, but also on what one is able personally to offer a mate. Interests, appreciations, and skills which may contribute to the enrichment of personal relationships are important assets of a livable personality and hence of a home partner. Dr. Lewis M. Terman has prophesied that in the future "matrimonial clinics will become common and that couples in large numbers will submit themselves to extensive batteries of ability, personality, interest, and compatibility tests before deciding to embark together." Such a battery of tests is now being developed under Dr. Terman's direction.

A clear understanding of the biological and eugenic, as well as the social and psychological, aspects of marriage is likewise necessary. Preparation for parenthood should, of course, include a thorough understanding of the general nature of heredity, specific knowledge of the heritage of both partners and a careful consideration of the probabilities for desirable

and undesirable inheritance in offspring. An understanding of the principles of child development should be another prerequisite.

This brings us to a more direct consideration of one of the primary functions of the home—the procreation and rearing of new human beings who will carry on the torch of life. *What part does the home play in the developing personalities of children?*

We have already noted in our own self-explorations numerous ways in which our environment may affect us in infancy, childhood, and adolescence. Here our problem is to shift our point of view and consider how as parents we might in turn affect our children.

Proper food in the right amounts, opportunity for many new experiences but protection from physical harm, plenty of affection but not too much and continuously adjusted to changing needs, opportunity for a sense of security and at the same time for a growing self-dependence, companionship in the home but a widening sphere of outside friendships unhampered by possessive parental attitudes—all these and many more factors must the wise and helpful parent bear ever in mind and provide in the home environment.

Interwoven with these conscious provisions for children's welfare are the relationships between the parents themselves and the life attitudes and adjustments of each individually. Friction between parents or dissatisfaction or unhappiness on the part of either may, without the awareness of the parents, work untold damage in a child's growing personality. Most clinical studies of maladjusted children point clearly to conditions in the home or the parents' personalities as some of the significant causes of the difficulties. Because definite manifestations are sometimes lacking, we shall never know how many lives have been warped and stunted by such causes.

Of course, mistakes will be made inevitably by parents, since they are human, but worry over past or anticipated future shortcomings will only increase the probability of errors by rendering the worrier less effective. Fortunately the human organism seems to be capable of marvelous adaptation to untoward circumstances, so that many parental mistakes will be rectified without serious aftereffects. To guard against undesirable parental influence, each parent should set his own personality in order, in so far as possible, and together the

parents should work toward the most harmonious and satisfying mutual relationships attainable. They are then ready to live joyously in the lives of their children without harming them and with mutual benefit, and are likewise ready to withdraw from these same lives when growth demands independence.

When this stage of needed independence arrives for the children, the golden opportunity may come to the parents to wander more freely again in the green pastures of their leisure-time interests which are often neglected in the face of the urgent demands of a growing family. Each stage in the good home life thus has its own special joys and pleasures.

But all stages are enhanced by basic mutual understandings. I had the privilege recently of listening to the reading of a very beautiful marriage contract drawn up by two young people as a tangible expression of the values which they hoped to realize through their life together. Both had been trained as scientists and hence they pledged mutual assistance in the achievement of their ambitions in their respective fields of scientific endeavor. They expressed the desire, however, that their work should never be allowed to interfere with the realization of the best in their love for each other, and agreed not to permit it to separate them for any considerable length of time. Following the many provisions relating to various aspects of their life, they agreed always to extend the same courtesy to each other that either would extend to an admired friend. Such a contract, resulting from the thoughtful study of marriage, and reread on anniversaries as was this one, would undoubtedly prove valuable in realizing mutual ideals and goals for marriage.

PERSONAL INVENTORY

Your desires with respect to a personal inventory at this point will depend upon your status. One point, at least, the married and unmarried may have in common, and that is ambitions or ideals with respect to marriage. We need to visualize our goals as clearly in our human relationships as in our personality development, so it is suggested that you start this inventory by trying to formulate as definite a statement as possible of the goals which you hope to realize or are striving for through marriage and home.

If you are unmarried the following activities are suggested as next steps:

Picture the qualities you would desire in a mate.

Inventory your personal characteristics which you think would enable you to be a desirable mate.

Note what desirable qualities you lack and consider how you can develop them.

Determine what undesirable qualities should be eliminated from your personality.

Determine what experiences will contribute most to your finding and choosing a mate, and what will contribute most to your preparation for successful and happy home life. A corollary of this statement is to go after these activities as earnestly as you would choose and prepare for a career. Recognize, of course, the need for reciprocity.

If you are married happily, you may need no inventory unless you think your paradise could be perfected, in which case you can probably make your own inventory unaided. If you are married and in purgatory, it is desirable to assume that that is a temporary place and to set out to determine how to enter paradise. This statement does not imply that there should be a new start unless the need for it is clearly indicated in the interests of all concerned. However, the approach to the problem may well follow much the same lines as those suggested for the unmarried. In doing so you might virtually find a new partner in the sense of really coming to understand and appreciate your present one; and this process might be mutual.

Chapter Sixteen

THE VINEYARD

OUR VOCATIONS

What seeds shall we plant in our vineyards? An important question for every human being, if we accept nature's teaching, that whatsoever we sow, that shall we also reap. But you say, "The day is past when every man may envision dwelling safely under his own vine with none to make him afraid. Machines and power have changed all that." In the material sense for many, yes. But in another sense, no. Every man has his vineyard in his own personality and his planning, planting, and toiling determine in large measure the nature of his vineyard and harvest.

In inspecting our vineyards we shall encounter the same difficulty as elsewhere, since each is likely to be at a different stage of development. Some may not yet have broken the soil, chosen the seed, or planted it; others may already be laboring among the vines or culling the harvest; some may need to prune their vines or even to start anew. Whatever the state of your vineyard, it is helpful to inspect it frequently, sometimes for thorough and systematic planning of the future, sometimes merely to check upon or stimulate growth, and again to determine needed or desirable changes. Each must cull from the discussion what is pertinent to his own vocational status.

What are some of the problems of vocational planning today? What help may one gain from guidance? A pioneer guidance worker wrote some dozen years ago that a guidance bureau should be like a type-distributing machine which takes a hopper full of type, of all letters of the alphabet, and places each in its particular niche. The vision of such a perfect mechanistic process makes a strong appeal to the imagination because it would be so delightfully definite and satisfying if it could be done. The cold but enlightening facts resulting from experience and scientific research, however, have shown us that guidance

must at present consist rather of helping individuals *determine for themselves* which of several possible niches it may be wisest for them to try to fill. In fact, the problem for the individual sometimes involves helping to create the niche as well as to prepare himself for it.

There are intimations in many scientific studies being carried on in the guidance field that the problems of vocational choice and planning may not always involve so much uncertainty, chance, and trial and error or accidental success as they do today. Dr. Clark L. Hull has suggested the possibility of a battery of tests, requiring several days to administer, upon the basis of which could be developed forty or fifty forecasting formulas for the more important type occupations. A machine, already devised, would calculate and record these forecasts for any individual on a card which would "present in orderly array, and in units of a single uniform scale, permitting of instant comparison, forecasts of the individual's probable success in all the chief type occupations of the world." The youth whose potential aptitudes are thus recorded, Dr. Hull explains, may examine the card to discover in which vocations his chances of success are poor, and avoid these. He may then examine the card to determine in which vocations his chances of success are best. The three or four most promising vocations may be investigated further. From these, in the light of his interest, opportunities, and general circumstances, a life work may finally be chosen.

Such a system may sometime in the future make our present techniques of vocational planning seem as slow and cumbersome as does the ox team as a means of transportation when compared with our automobiles and airplanes. Many more years of patient research are needed, however, before such methods as were outlined will be available. In the meantime we must make the best of our more cumbersome and inexact methods.

It has been estimated that at present we have no aptitude tests which forecast with more than 30 per cent efficiency for the individual. The only absolute test of one's aptitudes for a vocation is the test of life itself, achievement on the job. In most types of occupations requiring training, this method of trial limits a person to only a very few tryouts during his lifetime and has resulted for many in disappointment and unwarranted loss of energy. While we have no such exact methods for measuring human potentialities as we have for measuring possible stress

and strain for wood and cement, it behooves us to try to do as much to prevent disaster in our human lives as we do in building material edifices. And we have much information, experience, and some fairly well-tested techniques for guiding us in our efforts.

There are three main considerations which must be kept in mind in any sound thinking and planning with respect to one's vocation:

One's self as a growing personality, including all aspects of present development, and potentialities for further growth.

An occupation—its nature, demands, and present and future promise.

The possibilities for present and future adjustment between these two factors. The innumerable ramifications and uncertain or unpredictable aspects of each of these three considerations should serve as a challenge to intelligent effort in unraveling the plot of one's life rather than as a source of anxiety or fear regarding the future.

What should we know about ourselves to make intelligent vocational choices?

What bearing should our *interests* have on our vocational choices? How can we discover and evaluate our interests?

From the viewpoint of relative importance we should probably start with aptitudes rather than interests, but since interests are intensely personal they usually serve as more tangible and attractive starting points. A danger lies in the fact that many such personal investigations have stopped here, whereas interests should rather be points of departure which will help to direct the study of other important factors. The often-quoted story of presenting a child with a penny, an apple, and a Bible to determine by observing for which article he reaches first whether he should become a business man, a farmer, or a minister respectively, represents only an amusing exaggeration of a widely prevailing attitude about the significance of interests with respect to vocational choices. One's life work should, of course, be a means of both expression and development of vital personal interests, but we can have no perfect assurance that specific interests which dominate at any one time will continue to do so, or that they are evidence of our best vocational potentialities.

The following statements based upon results of widespread investigation of interests are suggested as guides in the personal study of interests:

Specific interests are not inherited, but may be partially determined by native tendencies to reaction which will influence what we react to and the manner of reacting. Individual variations in the reactions of very young children probably represent these inherited differences. They determine to what attention is given and thus help to lay out the fields in which interests may develop.

Specific interests may shift and change, but there is evidence indicating that these changes in interests are more radical or variable early in life than later, and that they become more stable with increased training and experience.

Interests and abilities are related, but one cannot be used to predict the other, though interests may be suggestive of abilities. The relationship between interests and abilities would seem to increase with one's knowledge of the occupational world and of one's personal qualifications.

There seems to be a genetic development of interests throughout an individual's lifetime, and the study of this genetic trend is probably of great value for vocational choice since it is more likely to be basically related to inherited and stable factors in one's life than is any specific interest at a given time, which may or may not be an integral part of the general trend of interests.

Since these genetic trends would seem highly significant in determining basic or fundamental interests, this approach to the study of interests will be dealt with first. One may attempt the study in one or both of two general ways—by writing a spontaneous and continuous autobiography of one's life, or by listing all recalled interests at specified intervals in one's life.

The autobiographical method may have a greater appeal for some than the more systematic listing of interests, since the study may be developed in story form and may include both likes and dislikes. Dr. Douglas Fryer,* who has made extensive study of the measurement of interests, suggests directions such as the following for this approach: In preparing to write this life history of interests spend some time for several days thinking about your dominant interests during different periods in your life. Try to recall the earliest things you liked or disliked and

* In *The Measurement of Interests*, Henry Holt & Company, New York, p. 372.

start with these earliest interests in writing your interest history. Do not confuse the things you did well with the things you liked best. Include vocational, educational, and social interests, also personality interests that came into your life. Make notes whenever you think of interests to be included in your autobiography. When you have written this interest history, check through it for significant interest trends and list these for further study and interpretation.

The systematic listing of interests at specified intervals in one's life is facilitated by the use of a chart such as that tentatively mapped out below.

CHART FOR STUDYING INTEREST TRENDS

Types of interests	Earliest recollections	Entering school	Last years of elementary school	Last years of junior high school	Last years of senior high school	Subsequent years of training	Entering a field of work	After several years in occupational activities
Immediate work interests								
Vocational interests								
Study interests								
Play interests								
Religious interests								
Interests in people								
Any other interests								

In preparing such a chart sufficient space should be provided for listing all recalled interests. The following instructions, adapted from some by Dr. Fryer,* may prove helpful:

* In *The Measurement of Interests*, Henry Holt & Company, New York, p. 370.

For each of the periods designated, think, for fifteen minutes or so, of the last two or three years of the period. For a school period think of the classrooms, your classmates, your teachers, the school yard, and school clubs or school teams. Think of the classmates you liked best, and try to recall their names. Think of your chums. How did you stand in your school subjects in comparison with the others? Try to recall specific experiences including both pleasant and unpleasant ones. What did you do during leisure time? For a period in adult life think of your attitudes toward your work, your associates, your home life, and hobbies and recreational activities. After thinking over these experiences put down in order of importance under each type of interest the things you liked best. Take plenty of time to think before writing.

After filling in the chart go over the listed items carefully to note persistent and variable interests and to discover which items seem to be significant for vocational planning. In making such an inventory, it should be borne in mind that a definite prediction of future vocational trends is not possible before the vocational development has taken place, but that several probable trends may stand out in bolder relief as a result of the study.

An analysis of your chart may reveal that you, like a great many people, have, not just one, but several basic interest trends which might lead into worth-while vocational endeavor. A systematic analysis of these trends over a period of time may often help to determine their relative strength and permanence. Without the perspective gained by such a study, ephemeral interests or temporary circumstances may result in life decisions quite out of harmony with fundamental trends of interest.

After making a genetic study of your interests as they have developed in sequence, it would be worth while to make as complete a list as possible of *present* interests of all sorts—a *cross-section picture*—and then study them in the light of your interest history. Try to determine which present interests are closely tied up with past experiences and which are due to immediate conditions or influences in your life.

A more impersonal or objective approach to this cross-section study is that of checking yourself against lists of possible vocational, educational, and social interests, noting and record-

ing your reaction to each. Several inventories of such interests have been published, some of which are listed on pages 307 to 308.

Succeeding steps in this study will be facilitated by a *summary of vocational interests* noted in the general study of varied interests. This may be accomplished by listing the various occupations in which you have been interested at various times together with the additional information suggested below:

Occupation	Approximate age at which you were interested	Principal reason for your interest at this time
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Include, of course, your predominant vocational interest at the present time and list other possible vocational interests in order of their appeal to you. Also consider the following questions:

Do you feel fairly certain that your present vocational interest is a stable one? What are the reasons for your attitude?

What are some of the factors which might cause you to lose interest in this vocation or develop new vocational interests?

Many research workers have been experimenting in recent years with the development of standardized interest inventories which could substitute *objective measurement of interests* for subjective evaluation. One of the most significant is the "Vocational Interest Blank" developed by Dr. Edward K. Strong, Jr., at Stanford University. This inventory includes a wide sampling of the various objects and activities in our environment to which we may react with a pleasant feeling of liking, with a feeling of aversion or dislike, or with mere indifference or no feeling. The individual being inventoried indicates his liking, indifference, or dislike for many occupations, amusements, school subjects, different sorts of activities, and peculiarities of people. He also expresses his order of preference for listed activities, factors in work, eminent men, and positions in clubs or societies, compares his relative interest in numerous paired items, and rates his present abilities and characteristics in various respects.

Studies conducted with this inventory have indicated that occupational groups can be differentiated by their interests, that is, "men engaged in a particular occupation have been found to have a characteristic set of likes and dislikes which distinguish them from men following other professions." Since scoring keys are available now for twenty-six occupations, an individual may discover how closely his interests conform to

those of successful people in these occupations. Scores on the inventory are interpreted in terms of three ratings: Rating A for a particular occupation represents a score secured by 75 per cent of the successful workers in that occupation who have been used as the criterion group to secure norms; rating B represents a score secured by the 25 per cent of the criterion group for that occupation who scored least like the group; rating C means possession of interests not characteristic of that occupational group. In answering the question: Does the individual have the interests characteristic of a particular occupation? a rating of A would give the answer "Yes," B "Not sure," and C "No."

Recent research with the inventory has indicated that the twenty-six occupations may be classified into seven groups or constellations on the basis of interests, so that by scoring the blank for interest in seven occupations, an individual may ascertain his occupational interest with respect to each of these different constellations. These seven groups are listed below, the first occupation in each group being the one which is at present suggested as fairly typical of the group.*

Group I	Group IIa	Group IIb
Physicist	Journalist	Life-insurance salesman
Mathematician	Lawyer	Real-estate salesman
Engineer	Advertiser	
Chemist		
Physician		
Dentist		
Psychologist		
Architect		
Farmer		
Group IIIa	Group IIIb	Group IV
Minister	Personnel manager	Accountant
Teacher	Y.M.C.A. secretary	Purchasing agent
	Y.M.C.A. physical director	Office worker
	School superintendent	Vacuum-cleaner salesman
	Group V	
	Certified public accountant	

Very few men in the criterion groups, all of whom were adults successfully adjusted in an occupation, rated A on this inventory for any occupation outside of the group to which their occupation belongs, but a considerable number rated B in other occupations than their own. Since changes in interest

* In general, Group I might be thought of as the science group, IIa and IIb as linguistic, IIIa and IIIb as service groups, and IV as a business group.

are greater between fifteen and twenty-five years of age than between twenty-five and sixty-five years, it is very possible that a young person may eventually change a B rating into an A rating or a C rating. Dr. Strong states that "The younger the man is, particularly below thirty-five, the less chance he has of receiving an A rating." Studies of interest maturity as related to the different occupational groups have shown that interest in occupations of Group I tends to decrease somewhat as one grows older, and that interest in occupations of Group III tends to increase very noticeably with age. Hence ratings secured at an early age may be higher for Group I and lower for Group III than they will be later.

If one's ratings on the Vocational Interest Blank revealed interests embracing several occupations, it would be desirable to consider possibilities for utilizing as many of these constellations of interests as possible in the chosen occupation. Dr. Strong suggests, for example, that if an individual scores high on both law and engineering, he might prepare for both and become perhaps a patent attorney or a lawyer specializing in engineering problems.

A "Vocational Interest Blank for Women" has also been developed by Dr. Strong, and scoring keys will doubtless be available soon.

This method of diagnosing one's vocational interests is one of our most helpful aids at the present time in the objective study of vocational possibilities, though the ratings for any individual need to be interpreted in relation to many other factors. If this testing service is not available to you through any bureau or organization in your community, it may be secured at a moderate cost by writing to one of the people mentioned in the footnote below.*

Another method of testing interest in an occupation is through measuring the extent of one's information about it. This method raises a question as old and as unsolvable as the question of which comes first, the chicken or the egg. It is claimed on the one hand that we are interested in that about

* The Vocational Interest Blank and the scoring keys are published and sold by the Stanford University Press, Stanford University, Calif. A scoring service is now established under the direction of Dr. E. K. Strong, Stanford University, Calif.; Dr. D. G. Paterson, University of Minnesota; Dr. Ben Wood, Columbia University Statistical Bureau; and Dr. Paul S. Achilles, Tests Division, Psychological Corporation, New York City.

which we have sufficient information, and on the other hand that we give attention to and hence acquire information about that in which we are interested. Whatever the answer, a number of tests of interest of an informational character have been tried out widely enough to make them seem valuable as aids in self-study. Some of these tests are listed in the Appendix, pages 307 to 308.

The importance of considering interests in making a vocational choice was forcefully emphasized by G. Stanley Hall when he wrote:

Did anyone . . . ever succeed who did not love his work better than anything else? Especially when everything is so intricate . . . as it is today, he who does not so love his work that it becomes play, so that he turns to it rather than anything else, cannot win the prizes of our day . . . I think that the greatest good fortune that can befall a man is to be able to make as his vocation what he loves to do during his vacation. . . . If there is something that you prefer to do to anything else, that way lies your calling.*

The significant truth embodied in this statement needs to be tempered, however, by the understanding that interest is only one of many factors which should enter into a vocational choice.

What are aptitudes? And what bearing may they have upon our vocational planning? Two people with no formal training in the theory of color and design may try to arrange some flowers in a vase, and one of them may produce a bit of still life very pleasing to the eye while the results of the other's efforts may annoy some soul with artistic sensibilities. The first one, we are prone to say, has a "knack" which the other lacks. Again, two people with equal musical training may hear a selection once, and the one may be able to reproduce it on an instrument while the other cannot. The first we say has the "knack" of playing by ear. We might multiply our examples manifold with examples of varying degrees of "knack" in tinkering with the radio, the family car, the sewing machine, the lawn mower, or numerous mechanical devices about the home, or with examples of varying facility in dealing with people, handling business affairs, or in mastering academic subjects. Again, we may

* Hall, G. Stanley, *Educational Problems*, by permission of D. Appleton-Century Company, New York.

observe that any one individual possesses the "knack" of doing or easily learning to do some things well, that he seems to do other things with only fair skill, and that he is awkward or bungling about others. These variations in natural capacity to achieve in various fields of activity we may think of as aptitudes.

One very serious limitation in this aspect of our study is that there is no general agreement as to what aptitudes *are*, or as to what *are* the possible human aptitudes, so that the word "aptitude" can only be used loosely. However, we cannot wait to study our aptitudes, any more than a doctor can wait to try to cure a patient until scientists have carried their researches further. The patient may die for lack of care, and human beings may make tragically unwise choices of careers. Mistakes may be made in either case, but the only inexcusable mistake is not to use what information or understanding we have. In the light of our incomplete knowledge, let us, for convenience, include in this consideration of "aptitudes" any personal qualities, physical or mental, except the personality trends and behavior patterns considered earlier. Physical strength or endurance, motor agility, mechanical ability, musical and artistic ability, social facility, intelligence, special literary, linguistic, mathematical, or scientific abilities, and many others could be listed here as aptitudes.

Scientific research with respect to the nature of our aptitudes has pretty clearly demonstrated the following facts which are of great importance for vocational planning:

People tend to vary with respect to any given aptitude according to the normal probability curve of distribution. We have already considered this tendency in studying personality and have applied it in discovering why people cannot be grouped into distinct "types"—because they vary by continuous steps or degrees without gaps or discontinuity in the variations. Without these variations between individuals there would be no problem of vocational planning, since one person could perform a particular piece of work as effectively as another.

Individuals tend to vary within themselves with respect to the relative strength of their various aptitudes in the same general way that they differ from each other in any one aptitude. We lack sufficient evidence on this point to state it as more than a probable tendency, but studies of variation of students in

aptitude for various school subjects have shown this sort of variation to the extent of about 80 per cent of the variation found among individuals. Hull concludes on the basis of these results that if future investigations show that this sort of variation holds true for genuine vocational aptitudes, it will mean that the average person has a great variety of occupational potentialities, a few very strong ones, a few very weak ones, and the great mass of them grouped about midway between.

Vocational aptitudes do not consist of a few major independent traits, but of clusters of numerous specific ones. Success in most occupations will depend, not on the possession of some one trait in a high degree, but upon the degrees of strength of numerous traits which, working together, will enable one to produce the desired results. Some characteristic such as degree of intelligence, a particular type of memory, degree of pitch discrimination, some sort of mechanical ability, or a degree of industry or persistence may be a common element in several groups of traits which would cause an individual to be suited for a particular type of work. The problem of studying one's vocational aptitudes is, therefore, the complicated one of measuring or evaluating the potential strength of all one's traits and discovering what particular grouping of traits seems to fit best the requirements of a particular type of work. We have neither the knowledge nor the techniques to do this perfectly or completely. Even a lifetime of actual experience will probably fail to give most of us a well-rounded picture of our capacities. However, the immensity of the task should not deter us from carrying the study as far as we can, since our fates or fortunes in life are the stakes for which we are playing in such a game of self-discovery.

A transition from a theoretical discussion of aptitudes to a listing of practical suggestions for discovering them is like a plunge into icy water; our vision of possibilities has become so vast and inspiring with the researches of recent years and our techniques for realizing these possibilities are, in comparison, so pitifully meager. Our only choice is to accept the shock and swim the best we can. Hence the following suggestions:

Hints or evidences of strong, average, and weak aptitudes are to be found in any careful *analysis of past experiences and achievements*, though one must sometimes discount especially

favorable circumstances or unusual training in evaluating the strength of potential aptitudes. One can start with the assumption, however, that only that which is inherent can be developed. A systematic approach to such an analysis would be to think carefully about your past experiences and achievements in much the same way as was suggested for the study of interests, and then organize, under various headings such as are suggested in the chart below, the facts recalled for different periods in your life. Try to evaluate the general quality of your achievements in these different fields and also note any outstanding examples of success, or of mediocre or poor results.

It is important in any such attempt at evaluation to try to determine roughly how much a particular type of achievement was due to natural aptitude, how much to industry or persistence, or lack of it, and how much to chance factors which may have favored or hindered success. Dr. Clark L. Hull has attempted to analyze the relative strength of these factors as they seem to be evidenced in many studies and estimates that, assuming each to be disentangled from the complex overlapping of the others, their respective contributions might be judged to be approximately as follows: capacity or ability, 50 per cent; industry or willingness, 35 per cent; chance or accident, 15 per cent. Although any such estimate can scarcely be more than a rough guess and will vary considerably in individual cases, it may prove suggestive in trying to analyze these factors in your own experience.

Such a survey of past achievements should give you perspective and background for checking yourself on points such as are listed in the chart below. If you wish to make such a survey, a work sheet may be prepared by copying the headings given in the first column of the chart, listing under each those activities in which you have engaged at any time, and drawing in the suggested columns for checking and notations.

Look over the items in the chart to find those representing activities in which your achievement, judging from your own observation and other more objective evidence, has been superior to that of the average person; also try to locate those activities in which your achievement seems to be about average or mediocre, and those for which it is inferior or below average. These achievements can be rated by placing a plus sign (+) after those which seem superior, a check mark (✓) after those

SURVEY OF VARIOUS TYPES OF ACHIEVEMENT

Activity	Self-evaluation: superior + average ✓ inferior -	Others' evaluation + ✓ -	Concrete evidence of quality of achievement	Estimate of contributing factors
I. Achievement in school subjects (list specific subjects under major fields such as art, commercial subjects, English, etc.) II. General scholarship III. Achievement in school activities (list any extracurricular activities in which you have participated) IV. Activities in the home (list) V. Hobbies and recreational activities A. Hobbies (list) B. Recreational activities (list) VI. Social, civic, and religious activities (list) VII. Work experiences (include odd jobs, summer work, training experience, and regular work for pay)				

which seem about average, and a minus sign (—) after those which seem inferior. You will note that space is provided, not only for self-ratings, but also for ratings by those who are in a position to judge fairly of your accomplishments and whose judgments can serve as a check on your own. The entering in the third column of concrete evidence of achievement such as the statement of scholarship in school, honors, positions held, or other sorts of accomplishment will give a more complete picture for analysis and evaluation. In the last column attempt to estimate how much each type of achievement was due to natural ability, how much to industry or persistence, or lack of it, and how much to chance factors which may have favored or hindered success. Use *A* to indicate ability, *E* for effort, and *C* for chance factors. If more than one letter is entered for a particular

achievement, enter them in the order from right to left in which you think these factors have affected the achievement, noting the strongest factor first, then the next strongest, etc.

Approach the survey objectively with the realization that we all have our strong, mediocre, and weak points, and also with a sincere desire to secure a rather comprehensive picture of your own. If the quality of your achievement in any field of activity has changed from time to time under varying circumstances, indicate this fact by placing two or more of the symbols in the checking column, and try to explain these differences.

Drawing circles around the plus or minus signs which represent your very best and worst achievements may help to give you a clearer picture of what activities to avoid and for what to search in contemplated occupations. If you have been fair with yourself in this checking, your list will doubtless contain many plus and minus signs, as well as check marks. Such an inventory is a good mental-hygiene exercise, aside from its value in vocational planning, since it is fairly certain to increase both your self-confidence and humility. Try listing probable aptitudes for which there seems to be tangible evidence in your survey. These could be grouped under such headings as intellectual, social, mechanical, artistic, etc.

After making such a list, it would be worth while to ask yourself the following questions:

What special aptitudes possessed in high or fairly high degree by some of my ancestors do I apparently lack?

Have I any reason to suppose that any of these might be latent but undeveloped in my personality?

The objective measurement of aptitudes is a sounder approach to their study than subjective evaluation, although the former method is still limited in scope. We have some interesting measures of mechanical, musical, artistic, clerical, scientific, literary, and linguistic abilities. We do not yet know how many and just what specific aptitudes can be singled out for study and measurement, but research is being carried on continuously to expand our knowledge about them. It is clear that each of the "aptitudes" mentioned above is itself a complex of many specific ones. We shall consider the possible vocational significance of a few.

Measures of musical talent: The oldest and best known tests in this field of aptitude are the Seashore tests consisting of

phonograph records which call for the use of the following types of discrimination:

Sense of pitch, or the detection of minute differences in pitch.

Sense of intensity, or of differences in weakness and strength of tones.

Sense of time, the detection of differences in time intervals.

Sense of consonance, or preference for different combinations of tones.

Sense of rhythm, the detection of similarities or differences in rhythmic patterns.

Tonal memory, measured by the ability to detect which note in a series of tones is changed when the series is played a second time.

These different abilities are obviously important for both musical achievement and appreciation. Extensive research with respect to these tests has given considerable evidence that they are measures of innate capacity and that scores are not much affected by training. The tests of pitch and tonal memory have a fairly high reliability, that is, the scores for an individual do not tend to vary greatly in repetitions of the test. The measure of intensity is more variable and this fact makes it desirable to repeat the test several times on different days to secure a dependable score. The reliability of the other tests has been adjudged to be quite low.

However, since these music tests have proved helpful for prognosis of musical achievement, it would be very desirable for an individual contemplating a vocation in the musical field to take them. They should be of interest and value to anyone in a general survey of aptitudes. The results, as in any test, should never be used independently of other data.

Mechanical ability: Studies have indicated that mechanical ability is apparently an aptitude which is independent of intelligence or motor agility, that it probably consists of group factors, the exact nature of which is not yet understood, and that environmental influences seem to play but little part in the determination of individual differences in this ability. Comprehensive studies, conducted at the University of Minnesota, show a fairly regular increase in mechanical ability scores between the ages of eleven and twenty, and reveal no significant sex differences on tests not influenced by previous practice. Since mechanical ability is involved in so many occupational pursuits,

it would seem highly desirable for anyone to secure a measure of his capacity in this respect. The most reliable tests of mechanical ability are individual performance tests instead of group paper-and-pencil tests, a fact which complicates the problem of measurement.

Scientific aptitude: A test has been developed recently which is "concerned with detecting a conglomerate of basic traits which enter into what may be called aptitude for science or engineering." It contains exercises devised to detect experimental bent, ability to differentiate good and poor definitions, the tendency toward suspended or snap judgments, ability in various aspects of reasoning, tendency toward caution and thoroughness, and ability in gathering, handling, and interpreting scientific data. The test shows promise of having considerable diagnostic and prognostic value for an individual interested in scientific research.

Other aptitudes: There are many so-called "aptitudes" for which tests are available and new measures are constantly being developed and perfected. Many business and industrial organizations have developed and use their own aptitude tests for placement and promotion. The results of these tests, when available, may afford some self-enlightenment. Actual tryout experiences in odd jobs also afford excellent opportunities for self-measurement through first-hand tests.

What is the importance of personality trends and traits for vocational planning and success? Fundamental personality trends, such as introversion or extroversion, ascendancy or submission, degree of self-sufficiency, emotional stability, and prevailing attitudes toward self and others are highly significant in determining the nature of all one's life adjustments, including vocation. Specific traits of character such as industry, persistence, reliability, and cooperativeness may often be determining factors tending to throw the balance toward efficiency or inefficiency, success or failure, in a chosen field of work. One study of the causes of discharge of workers in industry showed that of 4,375 cases only 34.2 per cent of dismissals were for lack of skill or technical knowledge, 62.4 per cent were for lack of social adjustability or undesirable habits or attitudes, and 3.4 per cent were for other miscellaneous reasons. The importance of personality trends and traits for vocational efficiency cannot be overemphasized.

Any of the information about self gained during our journey of self-discovery should make some contribution to vocational planning. In utilizing this information *it is important to realize that not only specific trends and traits, but also the particular combinations of them in the personality, are significant.* Their unique interrelationships in an individual will help to determine the extent to which he can effectively meet the demands of a particular job.

Many lists of specific traits significant vocationally have been developed, but it is usually desirable to make one's own list to include traits especially important for the types of work considered. Qualities generally valuable for success in any work should be included in the list.

How are life purposes related to vocational choice? What you want from life in general will determine to a large degree the satisfactions that you gain from your vocation. And what you want will depend upon your philosophy of life and your standards of value. Experience teaches most of us that what we want very much at one time may seem valueless later on, or that when we achieve a goal it may turn to ashes in our grasp rather than satisfy our anticipations. One reason for this may be that we are constantly envisioning new goals which rob those near at hand or already attained of their earlier glamour. Recognizing this human tendency will help to prevent one from concentrating too narrowly on one specific purpose or ambition. There is, of course, the opposite danger of scattering one's aims too much and thus failing to achieve any of them satisfactorily.

The following questions should provoke thought in this field:

What value do I attach to each of the following goals—wealth, prestige, self-development, service? What other life values do I wish to realize through my vocation? In what order would I list these values if ranking them? Will a contemplated occupation afford me opportunities to work toward these goals? Will I probably be able to maintain this evaluation of life goals in the work and the manner of living this occupation will tend to impose?

What should we know about contemplated occupations?

Needed information about a contemplated occupation is outlined briefly here:

Nature of the work—what is actually done in the occupation. This should include a picture of a typical day's work and an understanding of the various types of activities called for.

Advantages and disadvantages: Possibilities for continued interest, growth, and self-development; physical or mental strain involved; conditions tending to hamper or prevent growth and self-development; hazards involved in the work.

Qualifications and training needed: General education required or desirable; technical or professional training required; legal or other specific requirements; time required for preparation; probable cost of preparation; places where training can be secured; personal qualifications, such as health or physical requirements; special skills or abilities required; experience necessary; necessary or desirable personal qualities.

Possibilities for training on the job.

Possible lines of promotion, or other occupations to which this one may lead.

Income: Initial salary or wages. How paid? Probable and possible income after getting established in the work.

Probabilities as to length of active service in this work.

Hours of work and regularity of demand.

Relation between supply and demand in this field: At present; future probabilities.

Possibilities for radical changes in the work, due to inventions, or anticipated technological, economic, or social changes.

Methods of entering the occupation and entrance age.

Relations between workers in the occupation—organizations, etc.

Effect on social status.

Purpose and function of the work in our social order.

What are the most helpful sources of occupational information?

Fairly comprehensive occupational research studies are available in pamphlet or book form for a majority of the occupations of a professional or technical nature. It is important to note the date of publication of these studies in order to secure information which is sufficiently recent to be helpful. Changes occur so rapidly in many lines of work that recent pamphlets are often more satisfactory than books on occupations which may be out of date soon after they are published. Suggested bibliographies are listed at the end of this chapter.

Current magazines and professional and technological journals are valuable sources of occupational information. Evidences in the 1930 census reports of the numbers of changes in types of work since 1920 are certain to be somewhat appalling to the person who is considering entering a field of work directly affected by the rapid changes in processes in industry. Old types of work are disappearing and new types appearing so rapidly that anyone interested in applied science or technology should attempt to keep his information up to date in his field. He should become familiar with the standard professional and technological journals in his field and form the habit of reading them regularly. For the person not yet oriented in his special field of study, newspapers, magazines, and popular scientific journals will help to keep him in touch with many significant developments, if he forms the habit of looking for pertinent information.

There is a wealth of interesting and valuable information about the human aspects of occupations obtainable in biographies and autobiographies of people who have achieved success in different fields of endeavor. Their ambitions, their struggles to overcome obstacles, and their methods of adjusting themselves to changing conditions can give one insight not obtained through the reading of research materials. One should recognize, however, that biographies are usually written about people who have attained unusual success and also that these people have probably worked under very different conditions from those confronting individuals who may try to follow in their footsteps. If these cautions are kept in mind, there is no more inspiring source of study for one who is just starting to blaze his own life trails.

Conferences and friendly visits with people now engaged in an occupation are often beneficial. We need to observe here the same cautions suggested above and to guard against undue influence of first-hand contact with an admired or enthusiastic personality. A successful person often thinks his line of work the best in the world, and one who lacks an understanding of guidance principles may not be sufficiently chary with his advice. One can, of course, choose both successful and mediocre representatives of an occupation and thus see different sides of the picture. It is well to plan in advance definite questions or a technique for the interview.

First-hand observations of the work through visits and first-hand experience would be one of the best ways of studying an occupation if our complicated economic organization did not frequently render it impracticable by precluding any real understanding through observation. A trip through an industrial plant or an hour's visit in a law office or a court room may show no more about how work is actually done than would a similar visit to a state legislature. If one knows how to get the desired facts, however, this is one of the best sources of information. Actual tryout experiences in summer or part-time jobs often give valuable insight.

Educational institutions, Y.M.C.A., Y.W.C.A., and other community organizations frequently afford opportunity through lectures and vocational conferences for contact with outstanding people in various occupations. Such speakers are often criticized for either painting too bright a picture or over-emphasizing the difficulties to be encountered. Either tendency should be discounted, but listening to many speakers representing varied fields of work provides opportunity to compare and contrast personalities and attitudes and to reach some tentative judgments about what a particular occupation may do to one. That after all is an important consideration.

How shall one choose occupations for study?

The extent of one's occupational information should be the first deciding factor here. If previous study has given you comprehensive information about occupational opportunities, you may wish to concentrate on further intensive study of a few. If you lack this general information, it would be helpful to skim through some of the general surveys of occupations listed in the chapter references and as you do so to picture your interests and possible aptitudes as touchstones against which to check in your reading. These directions are for those, not so few in number, who are groping uncertainly and have no particular lodestar beckoning them in a specific direction. For this group the words of J. C. W. Reith will be consoling: "I believe few men are born for anything definite, and when they are they seldom strike it. When a man is born for a career and strikes it, we get a genius." Hull's conclusion that some people are twice as variable as others in the range of their abilities may possibly

have some bearing on the different degrees of difficulty with which individuals reach vocational decisions.

An approach which would be helpful in checking against interests and possible aptitudes would involve the following steps:

The determination of the relative strength of one's occupational interests in the seven groups of occupations listed on page 184, provided one's interest trends lie within the constellations included in these groups.

The listing of occupations which have an appeal to one's interests according to whether they call for physical or intellectual work, indoor or outdoor activity, work with people or with things, etc., or according to the demands for varying degrees of particular aptitudes, the possession of which self-study has revealed or suggested.

Most types of work will, of course, involve a combination of these different forms of activity, and the particular combination is the important thing to discover. The fact that in the legal profession alone there are about fifty different types of special legal workers should suggest the complexity of the task of surveying the thousands of specific types of work in the world today.

How may one check self against an occupation?

One of the first steps is to examine the factors which have helped to determine your present interest in a contemplated occupation, and to consider which of these influences *should* affect your choice and which are unimportant or even undesirable influences. Following are suggested factors to check: occupations of relatives, friends, or other admired persons; plans of parents or other relatives; glamour surrounding your concept of the work; possibilities for immediate income; hopes of short cuts to success aroused by advertisements; actual knowledge of the work; appeal of the manner of living possible in this work or social prestige associated with it; evidence of the possession of personal requisites for the work; interests or achievement in school subjects, or the influence of teachers; hobbies or other recreational interests or skills; location of work; appropriateness of present or possible training; harmony between opportunities in this work and your personal ideals of service and achievement; probabilities of personal growth and happiness.

After checking these factors to determine actual influences and the degree of their significance, it is wise to consider which of the important factors are probably unalterable and what attitudes one should assume toward them. How far should one go in attempting to overcome adverse environmental conditions or personal handicaps? In seeking an answer to such a question one may weigh the evidence to be found in the lives of individuals who have achieved success by Herculean efforts directed at conquering limitations and handicaps, and then balance against this evidence the possibilities of diminished returns on prolonged effort beyond certain limits.

How well do your interests harmonize with the contemplated work? It might clarify thinking about this question to classify your interests related to this work in three groups: those which have a fairly long history of development throughout your life; those which seem quite recent and perhaps are due in some instances to accidental factors; those which you have verified by objective comparison with those of people successfully engaged in this work.

Then note interests significant for this type of work which you apparently lack, compare the two lists, and consider possibilities for your developing the lacking interests.

Do you have the requisite aptitudes? Will this work utilize your strongest aptitudes? Both general intelligence and specific aptitudes should be checked here.

If your degree of intelligence appears to be much higher than the probable average for this type of work, there are two important considerations: a higher level of work in the same general field or the change to another field, or, if interest in this work is very strong, the expression of other life interests through well-developed plans to supplement occupational activity. Avocations will be dealt with later from this point of view.

If your degree of intelligence appears to be much lower than the probable average for this type of work, significant considerations would be: a lower level of work in the same general field or the shift of interest to another field, or the possibilities of compensating for this lack by special abilities or by personal qualities, such as industry, persistence, etc.

Special aptitudes which you think you possess should be grouped in some such manner as follows: those which you have demonstrated to yourself through the development of skills or

through specific achievements in any field of activity; those which objective tests have indicated that you possess in fairly high degree; those which others who know you think you possess; those which a study of your ancestors leads you to suspect that you might possess in a higher than average degree.

There will be much overlapping in such lists, but it is worth while to group them thus in order to try to distinguish between fact and fancy in your thinking. Next these traits should be checked against your interests to see how nearly they appear to harmonize. Such a comparison may help you to decide which interests may be based more upon hereditary, and which more upon environmental, influences.

The next and most important check for vocational choice is that of comparing your own probable aptitudes with those called for in the occupation considered. At this step it is important to realize that the degree of strength of each aptitude and the particular combination of various fairly strong aptitudes are significant considerations. Few occupations call for only one aptitude.

The aptitudes required or desirable for the occupation may be segregated into two groups to facilitate this check: those which you possess to a strong degree, and those which seem to be weak or missing in your own make-up. Then you are ready to consider which of your weaker aptitudes might be developed and strengthened with proper training and what would be the extent of your handicaps in this work without the ones which you seem to lack. Quite as important for your growth and happiness is the consideration of which of your aptitudes would not be utilized in this type of work. If there are many, or even one very strong one, it may be advisable to consider other occupations.

Do you have or can you develop the desired qualities of personality and character? Four groups will be especially helpful here to check against occupational requirements: your personal qualities which are necessary or desirable for satisfactory achievement in this particular type of work; those which will be likely to promote success in any line of work; personality trends or traits which will be liabilities rather than assets in this particular type of work; those which might tend to hamper success in any line of work.

Significant questions are: In what degree do I now possess each of the requisite personality qualifications? To what degree

and how can I probably develop them further? What are the chances of overcoming undesirable or limiting characteristics?

Here the difficult question arises as to how basic or innate are such fundamental personality trends as introversion or extroversion, ascendancy or submission, or such temperamental qualities as irritability or placidity. Observation, literature, and history give plenty of illustrations of fairly radical changes, but here again we need to consider the law of diminishing returns for our efforts at change. We must also decide whether (except for tendencies undesirable from a health or social viewpoint) we should not emphasize fitting our vocations to ourselves rather than ourselves to our vocations. Specific behavior patterns or traits are, of course, much easier to change than basic personality trends.

Other important questions are: Can I be natural or myself in the best sense of the word in this occupation? Can I work toward the development of the self that I wish to become?

Is this vocation in harmony with your life purposes and values? Of the various life purposes and values listed earlier, such as wealth, prestige, self-development, and service, which are you likely to realize to any degree through this vocation?

Will you be able to stress them in the same relative order in this vocation as you do at present in your life philosophy and standards of value?

Will it be necessary for you to seek many of them entirely outside of your work?

What are some specific ways in which you probably can or cannot work toward them in this particular occupation?

What position should one's vocation occupy, ideally, in one's whole life plan?

What are the probabilities that any vocational choice made at any time will remain permanent? There are two major aspects of this question: How permanent are vocational interests likely to be after entrance into a field of work? How stable is the chosen occupation?

Numerous studies of interests and vocational choices at varying age levels from childhood through adolescence and early adulthood have indicated that the chances of shifts or changes over a period of time are very great. In other words, one can have no assurance that an apparent interest in a specific type of work evidenced in early years will remain unchanged during

later years. Of course, changes in vocational preferences may represent no real changes in interests themselves. The boy who thinks he is interested in banking may not have the interests of the typical banker at all, and his choice may rest upon a limited understanding of himself and of the occupation and upon extraneous influences. However, interests, like all other aspects of the personality, develop and therefore may change.

We have noted that interests do not appear to change as rapidly after twenty-five years of age as before. Dr. Strong has found in his study of changes of interest with age that changes from decade to decade after twenty-five are not great, and that the differences in interest between men at twenty-five and at fifty-five years of age are not usually so great as the differences in interests found between individuals in different occupations at any particular age. His data indicate that older men show much less liking than the younger men for activities involving physical skill and daring and also for change of established habits or customs. Of the total amount of change for the period between twenty-five and fifty-five years, he estimates in round numbers that 50 per cent of the total change occurs between twenty-five and thirty-five, 20 per cent between thirty-five and forty-five, and 30 per cent between forty-five and fifty-five. Little or no change is shown after fifty-five. Dr. Strong concluded that, in general, the things we like most at twenty-five years of age are liked better and better with increasing age, and the things we like least at twenty-five are liked less and less. All studies have shown that interests tend on the whole to change less radically the more education or training an individual has.

We can deduce very little evidence of predictive value for a particular individual as yet from research studies, but observation and knowledge of the developmental nature of the human personality strongly suggest that interests will not remain static but will grow and develop. Whether they remain in harmony with the activities connected with a particular occupation will probably depend upon the whole course of development in an individual's life.

We also lack very accurate or dependable data regarding changes in vocations made by individuals. Statistics for labor turnover in industry which is variable in different periods tell us nothing about changes in occupations. Dr. H. D. Kitson studied the biographies of 1,000 persons listed in *Who's Who in*

America in 1919-1920 and found that 16 per cent had recorded changes in vocation. Considering the possibility that some may not have noted changes, and the additional probability that successful people, whom we may assume those listed in *Who's Who* to be, change vocations less often than the unsuccessful, Dr. Kitson estimated that the actual number of changes in the population at large is much greater. He found also that those persons with a considerable degree of education made the fewest vocational changes.

Census reports in recent decades have shown amazing changes in the listing of specific jobs, due largely to the rapidity of change in technical processes of manufacturing and in our whole economic system of production, transportation, and exchange. A period of depression may temporarily lessen the speed of change, but it is certain to create more problems of adjustment for the large numbers thrown out of work and to increase the difficulties of the new worker in entering desired fields of activity. Comparisons of the 1920 and 1930 census data reveal striking changes in occupational distribution occurring during that decade. The number engaged in farming, mining, and in certain types of factory work has materially decreased. There have, in general, been significant increases in the number of those engaged in the professions, trade, and the so-called service industries. These general changes within a classification are not, however, reflected in all types of work in the classification. A chart showing the comparison of the 1920 and 1930 census figures on occupations is included in the Appendix, pages 297-301. Whether the trends indicated in this chart will continue during the next decade cannot be predicted, of course. There has probably never been a time when wise choice and intelligent planning were more needed than they are today. Also one must expect change—both in the job, one's self, and others—to be the one constant factor in any anticipated situation.

To what extent should present or anticipated occupational opportunities influence one's vocational planning? This is a question upon which very little helpful advice can be given. Two very recent books on careers give contradictory advice on this point. One writer counsels youth not to expect to realize great financial success, social prestige, or perhaps not even any of the major life satisfactions through its jobs; to realize that power machinery has not left enough jobs to go around, and

that there is not enough room at the top, so that we may have to accept whatever work we can secure and look to other activities for our life satisfactions. Inconsistently, perhaps, he urges the utmost of care and zeal in planning and training for work. The second writer proclaims opportunities for everyone and states that "one's future depends about ten per cent upon the available opportunities of today, and about ninety per cent upon his own honesty, industry, initiative, and courage."

Take your choice, or, preferably, study conditions about you and throughout the world and reach your own best judgments. Some pertinent considerations are suggested to guide your thinking:

Impending radical changes in industrial processes or in other occupational fields deserve careful study before one embarks on a career totally out of harmony with the apparent trend of change.

The possession of narrowly specialized abilities or of a very high degree of a certain ability may often outweigh overcrowding in a field, as the most proficient individuals, other things being equal, have the best chance to succeed.

The person possessing a wide range of abilities with no outstanding aptitude more often needs to stress the problem of supply and demand than the person with a very narrow spread of aptitudes, one or more of which may be unusually strong.

If you should decide to try to enter a field of work which is badly overcrowded, you should of course recognize that your decision entails much chance and uncertainty as to the future. But these are characteristics of all futures.

What is the importance for vocational success of general education and specific vocational training?

A machine civilization demands specialization, and specialization in turn demands expert training, so that logic would compel us to recognize that the well-trained person, other things being equal, will have a tremendous advantage over the untrained in securing both desired positions and promotions. A rapidly changing civilization like our own also demands adaptability as one requisite for success, and this demand emphasizes the importance of a broad general education as a foundation for specialization. A high school diploma has become increasingly important in securing any job above the

level of unskilled labor, and college training is increasingly in demand for many types of work which formerly did not require it.

However, the question of whether college training represents a good investment of time and money for any particular individual has no ready answer. Just going to college will not insure any return value unless one is able to benefit from the experience. Also the returns in personal satisfactions and increased ability to serve cannot be estimated in terms of dollars and cents.

Since anyone can think of individuals without college training who are earning more than some college graduates he knows, it is obvious that the most easily measured value, increased earning power, cannot be an assured outcome of college training. Studies of the comparative incomes of people with varying degrees of education, have, however, shown general trends as regards income to be in favor of the college graduate. Of course one cannot conclude that the higher incomes are due solely or even chiefly to the college training. Differences in individual ability and personality and variations in opportunity for financial returns in different occupations affect income regardless of degree of education.

Another type of measurable evidence of the value of a college education is the eminence or recognized success of college graduates. Inclusion within *Who's Who* has been used in some studies as one criterion of eminence or outstanding accomplishment. Of the 26,991 individuals who supplied educational data for their sketches in the 1928-1929 edition of *Who's Who in America*, 85 per cent had attended college and 73 per cent were college graduates. Comparison of various editions of *Who's Who* between 1916-1917 and 1928-1929 shows a steady increase in the percentage of college-trained people included, a fact interpreted by the compiler of these statistics as due to the expanding demands in modern life for more highly educated leaders. The same caution is needed in interpreting these data as those related to income. Native ability and many extraneous factors undoubtedly play their part, together with education, in determining an individual's achievement.

Beyond doubtful possibilities of increased earning power or of eminence as a result of college training lie those values inherent in a life enriched by deeper understanding, finer appreciations, and wider scope of activities. These values are not so easily

measured as the other more tangible values, but they are probably more certain of attainment by those who desire them and strive for them. However, many realize these values without the benefit of college experience, and many others fail to realize them through college experience.

The important question for each individual is: *What training is best suited to my needs?* The old adage that "one man's meat is another man's poison" is as true of education as of other things. Many who have unwisely attempted college and left with an unhappy sense of failure might have been highly successful in work suited to their abilities. The same principle holds true for those who should and do attend college with successful results. Knowledge of the fact that individuals vary so greatly in capacities and needs has led us to realize that no one type of education can serve all equally well. It is important that each individual should not only attempt to find the work which is best for him, but that he should realize that education is not something to be acquired or absorbed, but is the result of active striving and personal experience. It has been aptly said that "Education is the process by which each individual out of his own awareness builds his world." This process must be continuous throughout one's life if successful life adjustments are maintained.

Should immediate economic necessity be a determining factor in the choice of a life work or in the planning of a training program? The answer to this question may depend for any particular individual on the extent of his financial problem, the state of his health, his physical vitality, and the strength of his aptitudes for a vocation calling for much training, if he must choose between earning his way while securing this training and taking a full-time job. If the latter expediency is only temporary and does not exclude more vital ambitions, it is not necessarily unfortunate; but several studies of the interests and attitudes of men established in their work for a number of years have shown a much stronger tendency among those who went into work with the goal of earning money predominating to dislike or wish to change their occupations than among those whose interests in the work were determining factors.

Should one allow past experience or training to influence vocational choice when at variance with other factors? Ideally, of course, one should plan sufficiently far ahead to prevent such an

eventuality. Future experience and new interests are sufficiently unpredictable, however, to necessitate the realization that even carefully laid plans may go awry. In such cases it is surely better to spend a few extra years in training for the new work than to endure a whole lifetime of dissatisfaction. A sufficiently broad foundation in all the fundamental fields of human interest will usually prevent such inharmonies and allow for much occupational shifting in related fields, but, if it should fail to, it furnishes an excellent foundation for short cuts in preparing for a new field or a fresh start.

No vocational plan is complete without *a tentative program for entering a desired field*, if not already established in it, and *for making successive readjustments* as the situation demands them or as one's needs or goals change. Such a program must of necessity be very flexible since one can never be certain what the future will bring forth. The important thing is to have the program to guide one's efforts.

Much has been written on getting a job. For personal applications advice invariably includes suggestions relative to personal cleanliness and neatness, attractiveness and suitability of attire, and poise, self-confidence and tact as desirable requisites. For written applications neatness, legibility, correctness of expression and spelling, pertinency of information, and personal touches which will reveal personality and unique services are usually stressed. Economic conditions of recent years have caused many writers to emphasize the need for patient systematic surveys of opportunities in fields related to one's interests and the use of much ingenuity and initiative in determining one's unique services and selling them to potential employers.

To make satisfactory progress in any line of work, it is essential to understand all of the ramifications of a job, the various possibilities for advancement, and the ways of rendering most effective service at any one time. Persistent intelligent effort, loyalty and unselfish service to the work, and cooperative relationships with one's fellow workers are fundamentals for vocational adjustment and progress.

What is your critical estimate of your vocational fitness?

When you have completed the suggested inventory, you will probably find it worth while to go over your listings and notes

carefully and then make a critical estimate of your apparent degree of fitness for the occupation you have considered. This estimate should include desirably not only a summary of ways in which its requirements and your qualifications seem to match, but also your limitations and handicaps for the work and the shortcomings of the occupation for meeting your needs and interests.

Such checks should be made with several occupations in order to verify any conclusions about one. If you are predominantly interested in only one occupation, and a thorough check of the sort outlined here is carried through with verification of the desirability of your original inclination, the effort will have been worth while if it shows up more clearly some of your basic interest trends or aptitudes which may not be utilized in your vocation. Such interests or aptitudes may well serve as a nucleus for planning other aspects of your life which may prove the source of much satisfaction and happiness.

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Chapter Seventeen

GREEN PASTURES

OUR AVOCATIONS

Where shall we find the green pastures and still waters to restore our souls after toiling in the vineyard? Where, indeed, in these days, some urban prisoner may demand. But again, remember, as with the vineyard, we are looking within our own personalities, not at an external realm.

This field of avocations or leisure-time pursuits has been rapidly expanding in recent years for the majority of people. It has been estimated that reduced hours of work, resulting partially from the use of power machinery, have released a yearly average of about 2,500 hours of free time per individual. And if today's prophets are correctly envisioning the future, the amount of free time will continue to expand with increasing rapidity.

Some engineers and economists have calculated on the basis of studies of production and distribution in our mechanized social order that with proper management it would be possible to reduce work to four hours a day, five days a week, thirty or forty weeks a year for a working lifetime of twenty-five years. Even though these specific figures are open to question, it is apparent that the effective use of much leisure time will be increasingly a problem and a life-enriching opportunity for the large majority of people—*life-enriching*, because more free time *may* mean wider margins of surplus energy from which to draw, but a *problem* in that this energy must be directed if it is to serve as a means of re-creation after toil and also as a means for the fuller self-expression and self-realization needed outside of work in a world of specialization.

Man is not by nature suited to specialization. He needs both routine and variety of experiences for satisfying adjustment in life. The fairly wide range of interests and possible aptitudes sure to be revealed by a thorough personal inventory is

evidence of the need for variety in one's experiences. Self-realization, then, in our industrialized civilization, where most occupations are rather narrowly specialized and cannot utilize the normal range of interests and aptitudes, involves finding avenues outside of one's occupation to ensure a well-rounded personality.

Rest is not quitting the busy career;
Rest is the fitting of self to one's sphere.

One does not need to suspend all activity to rest, unless perhaps when very ill. Real rest and recreation come through the release and expression of other aspects of the personality than those utilized in work. Much-used body and nerve cells thus get an opportunity to rebuild themselves and create new energy. One fundamental characteristic of an avocational pursuit is that it should be highly enjoyable in itself, and one direct effect of real enjoyment is the revitalizing of both body and mind.

Leisure time may be the source of the greatest waste or of some of the finest and most satisfying experiences in life. Progress in civilization is based in a large degree upon the use of leisure time, not merely for rest and diversion, but for creative activity of varied sorts. For the first time in the history of humanity much leisure time comes as a gift, not only to the few as formerly, but to the mass of people. How will it be used?

That is no problem for some people. A flip of the finger and a turn of a dial and they have continuous entertainment, if one can so label the incessant flow of raucous noise from some radios. But a kind heaven forbid, if they are my neighbors! And should I entertain altruistic thoughts, I would beseech the same kind heaven to forbid it for their sakes as well. Radios, movies, and automobiles bid fair, along with professional sports, to become the greatest destroyers of life that the world has yet known if they continue to increase their toll of human spirits succumbing to passive spectatoritis. A war kills or cripples the bodies of men, but how much worse to deaden their spirits. And yet these same instruments and machines are, when wisely used, great benefactors of the human spirit, enabling it to expand its horizons and gain real or vicarious experience of an ennobling and delightful sort. As with everything else the user determines the value or harm.

What are the various possibilities for leisure-time pursuits? That question embraces the whole world of possible human interests and activities. If we should attempt the impossible and presume to make a complete list, we could leave out nothing in the heavens above, the earth below, or in the heart or mind of man. We shall merely suggest a few possibilities which it is hoped will entice you to start a ramble through the happy hunting grounds of your own soul to discover what untamed creatures of your dreams and fancies might perchance be captured and brought into your world of reality.

Here are a few decoys to entice you in the hunt. Do not be ensnared within these confines if your greenest pastures lie elsewhere:

Indoor and outdoor games and sports of all sorts.

Reading for pleasure and enlightenment.

Landscaping and gardening.

Building and interior decorating in the home.

Handcrafts of every conceivable sort.

Dramatics, both passive and active.

Writing.

Musical appreciation, performance, or composition.

Graphic and modeling arts, either appreciation or performance.

Collecting of what you will.

Research and experimentation in varied fields.

Inventing.

Social and civic service.

Travel.

Nature study, geology, or astronomy.

Well, we shall leave you in the starry universe with the hope that your spirit has wings to carry you about reconnoitering every conceivable opportunity for the release of your powers and the realization of your dreams. The chief limitations will be your own interests, energies, and, we regret to add, your pocketbook. But when we consider our common human limitations of time, we realize that we must choose from amidst a bewildering array anyway, and we are certain to find within our own confines more than we can ever achieve in a lifetime.

We need at this point a perspective which will enable us to set many future goals that we realize we may or may not reach, but the anticipation of which will give added zest and direction to

life and at the same time cause us to grasp the immediate satisfactions we can encompass.

Moderation is as important in our avocations as in every other aspect of life. We should experience no feeling of pressure and strain in periods that should allow relaxation, pleasure, and the encouragement of individuality. The pressure to keep up with the procession in our swiftly moving new world civilization has placed many Americans under such apparent strain that the results in facial expression were characterized by a European several years ago as resembling "bottled lightning." This resemblance might be preferred by many to that suggested by a well-known psychologist between the gum-chewing American girl (I do not know why he confined it to girls) and the satisfied cow chewing her cud! The key to the solution of how to avoid both of these undesirable extremes probably lies in large part in those experiences which are undirected by the pressure of work, social obligations, or ambition to achieve—times when we can write *whim* on the lintels of our doorposts. Our inclinations and interests at such times are some of the best indexes of our real selves and when afforded sufficient encouragement and free play they can give direction and force to our whole lives. On the other hand, if both uncontrolled and unintegrated with the main current of one's life, they can divert the stream into a marsh of purposeless, wasted effort. The person who has learned to utilize his leisure time with both enjoyment and profit has learned one of the secrets of living as an art.

If we choose and develop our avocations wisely, we shall not need to wait until "life's last picture is painted" to work without praise, blame, money, or fame for the sheer delight of drawing " . . . the Thing as [we see] It for the God of Things as They are."

What factors should be considered in avocational planning? In planning avocational pursuits it is desirable to start with an inventory of possibilities as suggested for vocational planning. In fact, all of the considerations for vocational planning except income, promotion, and success apply equally well to avocational planning.

A starting point in your thinking would be to list all the avocational possibilities you can think of under such headings as: social, esthetic, scientific, manual, sports. It may prove interesting to investigate the avocational pursuits of several

people successfully adjusted in their life work, with a view both to securing new suggestions of possibilities and to comparing their avocations critically with their vocations to determine whether they measure up to the requirements for an avocation mentioned above. It is also important to consider your interests and aptitudes not cared for in your best vocational choice, and to secure appropriate suggestions for avocational activities which would, as it were, take up the slack in your personality and at the same time afford variety of experience—both diverting and creative in nature.

Avocations like vocations should grow naturally out of past and present experiences, so it is well before concluding this inventory to take stock of present activities:

What are your present leisure-time activities?

Do they possess cultural value?

Do they afford real rest from your other work?

Are they a source of much enjoyment and self-expression?

Do you have a special hobby that demands a large share of your time?

Are you laying the foundations for permanently satisfying avocational activities?

What experiences are helping to furnish background for both present and future avocations?

One very practical consideration with avocations is the possibility of a serious one becoming a vocation. Times of rapid social change and economic upheaval have demonstrated the need of versatility as well as specialization in order to keep the harmonious adjustment between inner and outer forces which is the basis for efficiency and happiness in striving to reach envisioned goals.

Part Four

The Master Builder

Chapter Eighteen

BUILDING SKILLS

CONSERVING TIME AND ENERGY

An effective *method of building* is quite as important as the plan of the structure we hope to build. *Time and energy are the two most strategic factors in developing building skills.* "Time," says Arnold Bennett, "is the inexplicable raw material of everything," and all life is a manifestation of some form of energy. Neither time nor energy wasted can ever be recovered.

The problem of conserving time is somewhat different from that of conserving energy. Energy varies widely from time to time and among individuals, and our problem is to discover how we can create and release the largest amounts of energy without depleting the sources, and how we can utilize this energy to the best advantage in striving toward our life goals. With time, however, the question is how it is to be spent, since each of us has, according to the measures of our mechanical clocks, exactly the same amount of time to draw on in any one day. Yet by decreasing the time required for an activity through improved efficiency in performing it, we are virtually increasing our possibilities for living.

The conservation of time depends largely upon two major skills: wise budgeting of time among our life activities, and learning to perform these activities more effectively without lost motion and effort. Let us consider first the budgeting of time.

Do I hear some audible yawns and grunts of boredom and disapproval? If so, they may be the result of projection on my part, for, I confess, I have often felt that way about this problem. Nevertheless, I have learned from experience that it is quite as necessary to budget time as money, perhaps even more so since one cannot borrow time. I have also learned, as have many others, that budgeting time need not make one overly meticulous or prissy; rather it frees one to do more of what one really

wants to do. Without careful planning, much time is likely to be frittered away on unimportant matters or perhaps in sheer idleness before we are aware of what has happened. A little time and thought devoted to the planning of one's daily schedule and to checking on its execution usually give rich return in time for the varied experiences which life should afford. They help also to eliminate that feeling of rush and the worry and fear that necessary things will not be done, states of mind that make life a nightmare at times for many.

The attempt to budget time involves the whole complicated structure of our own lives, as well as, to a certain extent, that of others whose lives are inextricably interwoven with ours. No one is entirely free to determine the disposition of his time, though often we complacently allow it to be regulated by conditions which we *could* control.

The first step then is to discover just what activities and periods of time are already determined by external conditions and personal needs, such as work, living routine, meals, sleep, and personal care. Enter these on the budget form.

The next step, really the most important, is to determine what *are* the things that you most want to do. At this point some may feel like the child in a progressive school, who at the beginning of a "free" period asked, "Do we have to do what we want to do today?" Others may think, "What's the use? I can't do what I really *want* to do anyway." We are all creatures of habit and like a certain amount of routine, but we all have aspirations which are annoyingly elusive at times. We may allow Browning to console us with the thought that

Ah, but a man's reach should exceed his grasp,
Or what's a heaven for?

If we are to become master builders, we must learn to evaluate our desires in the light of our total life plans and develop skill in choosing and finding time to express those desires which will mean the most growth and satisfaction. Of course, a master builder will never lose sight of reality and strive futilely for the impossible, but neither will he be discouraged by obstacles or limitations. He will work patiently and skillfully with the materials at his disposal.

To insure putting first things first and to prevent unimportant details from cluttering up the schedule, try listing your desired

activities in order of their adjudged importance in your life, and tentatively assign to each the time in a day's or week's schedule which you think it should have. Consider next the appropriate periods in the day for each activity and then attack the solution of the puzzle of fitting them into the frame of your life in relation to your required activities. Some parts of the picture may require reshaping before they will all fit together harmoniously, but that feature of this puzzle makes it more challenging than the ordinary picture puzzle. We may be creators, not mere jugglers, in this game.

Be sure that you do not sign yourself up for more than twenty-four hours in a day. And if there should be unfilled spaces in the schedule? Having never faced that eventuality, I cannot advise. Perhaps one should sit and think—not so bad—or just sit—plenty seem to. But how much do just-sitters miss?

The nature and number of activities on our schedules and the time needed for each will depend partly upon our proficiency in the skills involved and the amount of available energy at our disposal. The two factors change as do our interests and thus affect the budgeting problem. Any time budget should be subject to revision as experience demonstrates the need. It can be effective only when actually applied in the day's program from week to week. Exact precision in carrying out a planned program is not always possible, of course, since unexpected events are inevitable. Any time schedule should be a tool instead of one's master, and should be sufficiently flexible to meet changing conditions.

In order to conserve time, how may we learn to be more efficient in what we do? This question leads to another. What happens when we learn?

All learning involves changes of some sort in behavior. These changes may be in the nature of perfecting, strengthening, or weakening forms of behavior already developed in response to certain conditions outside or within one; they may involve the use of already established behavior in responding to new situations; or they may involve the development of new forms of behavior in responding to either old or new situations. Any or all of these types of changes may be involved in a particular learning process. These changes may occur without intention or awareness on the part of the learner, or they may be the

result of conscious effort. Experiments with young infants have shown that a baby who will pat and stroke the fur of a rabbit under favorable circumstances may draw back with fear if a loud noise is sounded at the same time that he is given the rabbit, and may thereafter show signs of fear in the presence of a rabbit or other furry animal, if the fear is not in some way unlearned. The baby is instinctively afraid of a loud noise, but he *learns* to fear the rabbit. Probably many of our reactions to stimuli in our environment, including fears, likes and dislikes, loves and hates, and specific types of conduct, have been developed in this manner by the association of experiences which have been registered together, and tend thereafter to persist as modes of behavior. This process of unintentional learning is called *conditioning*. It is important for a learner to understand and control this conditioning process in so far as possible since it is constantly affecting his conscious efforts to learn.

Conscious or intentional learning seems to involve two sorts of processes, those which require practice or repetition as in the acquisition of skills, and those which require the gaining of insight as in the acquisition of organized knowledge and the noting of relationships of various sorts. Both processes are probably present in most learning situations though in varying degrees. However, methods and results vary sufficiently in *skill-learning* and *knowledge-learning* to warrant our considering them separately.

In the acquisition of skills such as typing, playing a musical instrument, skating, swimming, or learning to speak a foreign language, we engage in a repetition of trials. Our first trials or responses are usually varied in nature and not the same as the eventually learned response, which results only after continued repetitions in which the response may be continuously modified. The response at the end of learning may be distinctly different from its initial form, many of the elements of the practice responses having been eliminated.*

* This sort of "trial-and-error" learning is illustrated in a simple form in the following example of animal learning. If a hungry cat is confined in a cage with food outside beyond its reach, it will at first attempt to escape by apparently random efforts. It tries to squeeze through any opening, claws and bites at the bars or wires or anything it can reach, and eventually will by accident claw the string, loop, or button which opens the door and allows it to reach the food. When placed in the cage a second time, the cat repeats many of the former trial-and-

What are the conditions under which this skill-learning takes place most effectively? Certainly not by mere frequency of repetition alone, since many of the responses repeated frequently in a practice series may be eliminated. If they were not, we might be practicing and perfecting errors instead of progressing toward the desired skill. Experiments have indicated that *motivation* of some sort involving definite purposes, plans, and ideals of the goals to be achieved is highly important for the learning process. Without this motivation one is not likely to be in a state of readiness to give attention and put forth effort. The sort of effort needed for effective learning is not a blind straining for results, but a focusing of attention and directing of energy which will result in vivid and intense impressions during the learning activity. While *emphasis* of the right sort tends to facilitate learning, any very violent emotional stimulus is likely to disrupt the learning process. *Clear-cut purposes or goals for the learning activity, a strong desire to attain the goal, and a definite plan of attack based upon an understanding of what is to be learned and what are the steps necessary to reach the goal are, then, some of the prime requisites for effective learning.*

Experiments have also suggested that *satisfaction*, in the form of enjoyment of the learning activity itself and of a sense of success in making progress toward or reaching predetermined goals, greatly facilitates learning. Rewards of varied sorts and recognition of the success by others may also serve as motives for further efforts. Satisfactions would seem to be of sufficient importance in facilitating learning to warrant providing for them quite consciously in any efficiency plan for improving learning.

A third condition for effective skill-learning is that of *practicing persistently* until desired results are achieved. This practice, however, should be carried on in harmony with the other conditions stated above. It is also affected materially by the sequence of practice periods. Trials repeated continuously

error responses, until once again successful. Gradually, during many trials, the unsuccessful responses are eliminated and eventually the successful response is exhibited as soon as the cat is put in the cage. Note that an important condition of this experiment is that the cat should be hungry. A novice who once tried the experiment with a well-fed cat found that it curled up and went to sleep in the cage! Is this situation ever paralleled in human learning?

during long practice periods are less efficient than those grouped in shorter practice periods and distributed over a longer period of time. The most effective spacing of practice depends, however, upon both the individual learner and the particular type of learning. Each learner must determine by intelligent observation of the results of his efforts what length and spacing of practice periods are best for him and for any specific learning.

It was formerly believed that lack of practice or disuse tended to weaken or eliminate a particular response, just as correct practice or use tends to strengthen or establish one. Recent experiments have indicated that it is not disuse, but the blocking of the response by intervening events or altered stimuli, which may be the actual cause of the weakening of the response during a period when a skill is not practiced.

It has also been observed, and demonstrated in experiments, that repetition of a response will, under certain conditions, result in its elimination. The condition of "going stale" is an illustration of the possible negative results of practice. Successful attempts to eliminate undesirable habits in human beings have been made by first requiring the subjects to practice them under specific direction, before beginning to establish the desired counter-habits. Habitual errors in typing have been overcome by the use of this method.

Learning which involves the gaining of *insight* into a situation through the noting of pertinent relationships appears to differ in at least one important respect from the learning of *skills*.* Once the needed insight is gained, improvement takes place

* A few examples from animal experiments may help to clarify what is meant by insight. Köhler found that a chimpanzee in a cage would readily use a stick lying close at hand to poke at a banana too far away to be reached directly by the hand, but, if the stick were placed far away from the animal, he might not see it and use it so soon. One chimpanzee learned to join two pieces of bamboo into a long stick to reach distant objects, the solution coming suddenly after an hour of trial-and-error behavior and showing unmistakable evidence of insight or seeing a combination of objects. The chimpanzees with which Köhler experimented solved with ease any problem which involved a roundabout path to the objective, provided all the path were in clear view so that they could eventually grasp the situation as a whole. Comparison of the trial-and-error learning of the imprisoned cat (see footnote, pp. 220-221), needing many repetitions to fix the right response, with the more rapid insight learning of the chimpanzees described here reveals the greater economy of insight learning. Human learning involves both types of processes but offers greater opportunities for insight because of the nature of human intelligence. A learner should be constantly on the alert to avoid fumbling blindly with trial-and-error methods where insight would be more effective.

suddenly, instead of in the more gradual manner apparently necessary in the learning of skills. Clear and accurate perception of the ideas or conditions involved in a particular learning situation and sound thinking with reference to them are required for success, but when insight appears repetition may not be necessary to perfect it. However, in order to keep the learning process progressing it may be necessary continuously to gain new insights which call for the use of previous ones.

Definite purposes and goals, well-organized plans of attack, a state of readiness, and the securing of adequate satisfactions are as essential for the highest efficiency in knowledge-learning as in acquiring skills.

The two sorts of intentional learning considered may not be radically different. The related activities in the nervous system may be essentially the same for each. We do not know at present. Each is probably involved to some extent in most learning situations. The apparently rapid improvement which results from the gaining of insight may be due in part to the use of previously established skills or learning in new combinations to meet new conditions. This possibility would suggest the importance of *keeping all of our learned activities or habits as plastic as possible in order to utilize them in effective ways in varied situations*. For particular skills this plasticity would involve linking many responses to a particular stimulus or many stimuli to a particular response. In playing tennis, for example, it is necessary to be able to react to the stimulus of the returning ball with a variety of strokes, the most effective one depending on one's position in the court, the speed and direction of the ball, and many other factors; also a particular stroke must be used under a variety of conditions. Similar illustrations could be cited for the development of a usable vocabulary or the application of rules of grammar in learning a foreign language. The linking of only one response with one stimulus narrowly limits any learning situation. In knowledge-learning it is important to associate each new idea with as many previously acquired ideas as possible and to utilize the new meanings thus obtained in a variety of ways in thinking about related problems. Information thus becomes dynamic and useful. The achieving of this plasticity in both skills and knowledge is probably the fundamental basis for one of the most important results of learning, *the improvement in learning to learn*.

How may we measure our progress in learning? That depends partly on the type of learning. One way would be to note *amounts of time* required to do a unit of work in successive trials; another would be to note the *amount of work* done in successive units of time. *Decrease in the number of errors and improved quality* would be other important signs of progress. *Since the satisfaction which comes from realization of improvement is a spur to further learning, we should frequently avail ourselves of this incentive.*

But suppose we stop improving in some desired learning? That is true of practically all kinds of learning at times, and these periods which we call plateaus often represent times of discouragement for a learner because efforts appear to yield no satisfactory results. However, these plateaus are very often followed by periods of rapid improvement, suggesting in some cases that real progress was actually being made during the plateau period, but for some reason was not being manifested.

An understanding of some of the common causes of plateaus and ways of dealing with them will often shorten their duration, or even prevent their appearance at times. Among causes for lack of improvement are wearing off of the novelty of new work, lack of interest, fatigue, poor or ineffective habits of work, the perpetuation of errors, the need for new methods of work to meet new conditions, the need for time and practice to fix them as habits, failure to exert the intense effort required to reach a new level of activity in the work, and lack of needed insight.

An understanding of the nature of plateaus and a faith in ultimate improvement, combined with persistent effort, are aids in hastening their disappearance. Anything which increases interest in the task or problem and improves attentiveness and concentration is likely to help. An analysis of the elements involved in an activity will often reveal specific difficulties to be overcome and give insight into principles which may enable one to work intelligently toward effective variations in practice, instead of depending upon blind trial, error, and accidental success. Seeing a situation as a whole, instead of merely through its elements, will help to give this insight. Varying the time for difficult work so that one is freshest when attempting it, and experimenting with work periods of varying length, may prove helpful. Anything which diminishes fatigue and improves one's general physical and mental well-being is an aid. The elimina-

tion of worry and discouragement and a hopeful anticipation of improvement are facilitating factors.

It is important to bear in mind that individuals vary widely, not only in their rates of progress, but also in the limits beyond which effort to improve gives such diminishing returns that further effort becomes unprofitable. Often the problem becomes, not that of inability to improve further, but one of relatively more profitable returns from effort directed in other channels. One may be able to improve along musical or artistic lines, but may find it much more profitable to perfect certain mechanical or linguistic abilities. Again the question may be how much anyone can benefit from the perfection, beyond certain limits, of some unimportant function. Each person needs to study himself, as well as the relative values of the functions he is trying to improve, to discover what for him is the point of diminishing returns beyond which effort becomes unprofitable.

What effect do our attitudes have on our efficiency in learning? The readiness and enthusiasm with which we enter into any activity play a large part in determining its outcome. If we approach work with reluctance or displeasure, efficiency is certain to be lowered. According to the principle of motivation, when we are in a condition of readiness and desire to do a certain thing, we generally do it more easily and gain more satisfaction from the doing than when we are in a state of unreadiness and dislike for the task. Do not begin work with dislike and a bored attitude; your efforts will be largely wasted and you will probably experience the ennui you are expecting. Start with zest, keen interest, and the expectation of enjoying it much as you might a dance, a movie, or a favorite sport; you will accomplish more as a result of this attitude and the work will seem more enjoyable.

According to the principles of satisfaction and of emphasis, if one approaches a task with a feeling of annoyance and unreadiness to attack it, the resistance to be overcome is greater, the result is much less likely to be successful and satisfying, and the whole learning process is retarded. Work done with a feeling of protest is unlikely to yield as vivid impressions as more pleasant tasks and will probably be less permanent in its effect.

If one is faced with the necessity of doing disliked work, it may prove helpful to remember that attitudes become habits

in much the same manner as do such skills as typing or playing a musical instrument. A feeling of enthusiasm and anticipation of pleasure in work can be initiated by conscious effort, and, if the attitude is persisted in long enough, it becomes progressively easier to maintain. Unless the task attempted is entirely unsuited to one's ability, the assumed attitude combined with good methods of work is quite certain to result in improved achievement, which will itself give satisfaction and supplement the influence of the conscious attitudes and help to fix them as habits.

Of course, native capacities should be considered. If, for example, musical training is being attempted and one lacks an ear for music, *i. e.*, cannot distinguish fine differences of pitch accurately, or lacks a sense of rhythm or any other essential characteristic for proficiency in some branch of music, no amount of effort to develop correct attitudes and skill will produce the desired results. It would be wiser to direct one's efforts toward activities for which one possesses sufficient native capacity. The same would hold true for mechanical skill, or work requiring a high degree of intelligence, etc. Much unhappiness and disappointment in life are the result of effort to succeed in lines of work for which one is natively unsuited. Granted the requisite ability, however, it is well to bear in mind that our attitudes and interests develop out of our experiences and are subject to modification. Probably most of our adult interests are more or less artificially developed through environmental influences.

The use of extraneous motives, such as recognition of the necessity of some work as a stepping stone to a desired goal, or even the desire to complete the work in order to do something more enjoyable, is frequently justifiable and helpful for a time. *Ultimately, however, the work should be enjoyable in itself and motivated by intrinsic interest.* If this seems impossible to achieve and the work is necessary, then increased efficiency may reduce the time spent on it, and recognition of this fact may create a desire to excel which in itself becomes a motive for learning.

How may we improve our ability to concentrate or control the attention? Concentration is one of our most important building skills. Poor concentration accounts for much of our lost time and energy. Without the power to direct the attention and hold it on a specific task, learning is impossible. Many think of con-

centration as a faculty which they possess in very limited degree or which they are fearful of losing. The ability to concentrate is not a special power or faculty; it is the result of the control and direction of one's attention. The mind is constantly attending to something while one is awake and the ability to determine to what it shall attend is a matter of habit. Most of the time there is a multitude of stimuli both from without and from within crowding for attention and those which are related to our strongest interests and for which we are in a state of readiness are the ones likely to win our attention. In our mental activity there is a constant flow of the attention from one stimulus to another, and we probably attend to any specific stimulus less than a second. The possible duration of attention to one idea is probably about four seconds. Unless the attention is constantly supplied with new stimuli, it is quite inevitable that it will go wool-gathering and secure the new food it requires.

With these characteristics of attention in mind let us review briefly some of the aids to concentration:

Real interest in a task, *innate ability* suited to it, and *self-confidence* growing out of satisfying achievement are prime requisites for good concentration. Since we have already dwelt upon these points as they relate to desirable attitudes, they need no further elaboration here.

Rapid work is of distinct assistance in controlling attention. It is the rapidly flowing river which has well-defined banks and soonest reaches its goal, the sea. The slow-moving stream tends to spread out and form marsh land. Likewise the rapid worker keeps his attention focused on his work instead of allowing it to wander away into the marsh land of his dreams and fancies. The fact that the mind attends to one thing for only a second of time is a partial explanation of the advantage of rapid work. The attention is carried along from one point to another without an opportunity to wander off into unprofitable bypaths, and the intensive effort required to work fast helps to marshal one's energies. Mere haste may result in wasted time, but with persistent well-directed effort one can usually improve concentration by working at one's own maximum speed.

Definite purposes serve as effective aids to concentration when related either to the immediate task or to more distant life goals. It is important that some of our more immediate purposes and

goals be obtainable without too great effort so that we can have the stimulus for further effort which comes with the satisfaction of having achieved. Breaking up a long task into shorter units which can be mastered one by one is often helpful. One should, however, see the relation of each of these units to the whole piece of work and the purposes of this work in relation to life plans.

External distractions should be eliminated in so far as possible. Noise and confusion in the environment often interfere with concentration although some claim that they can work better where it is necessary to exert effort to shut out distractions. When the urge to work is not strong, this effort to exclude distractions may assist in arousing and organizing energy. However, experiments have shown that energy is thus needlessly consumed, and it is suggested that distractions should be eliminated if possible. Those which we cannot control or evade we can, with rightly directed effort, prevent from interfering with concentration. It is better to set the attention on the task to be accomplished and ignore distractions than to direct attention to shutting them out.

The control of emotional disturbances and fatigue is important for concentration. These inner distractions are often more difficult to control than those in the external environment. Unhappiness, worry, fear, or depression may play havoc with the attention. We noted earlier how necessary it is to face these disturbing conditions frankly and try to understand and remedy them, rather than to try to repress thought or feeling about them by sheer force of will power. But if an unpleasant situation cannot be remedied, intensive work on an interesting task is often one of the best antidotes.

In a condition of fatigue the resistance to stimuli is increased, and, when the failure to concentrate is due to this cause, needed sleep, rest, or recreation is of more immediate aid than the effort to control the attention for work. If there appears to be no good reason for fatigue, however, it is desirable to bear in mind that added effort may cause one to acquire "second wind" and overcome the sense of fatigue.

Last but not least in this list is the factor of *systematic work habits* including that of starting a task with promptness and enthusiasm which will carry one past the initial warming-up period in an activity. Listless dawdling may be fatal at the start.

How can the ability to remember be improved?

Memory might be compared to mortar which holds together stones in a structure. The effective functioning of memory is of the utmost importance in learning, and hence in the building process in our lives.

Many fear that they lack "memory," just as many fear that they lack the ability to concentrate. A young woman complained to me that she was having difficulty with her school work because she "had no memory." Engaging her in conversation for a few minutes about a hobby in which she was much interested, I shortly pointed out to her that she had recalled many minute details regarding her experiences with this activity extending back for several years. We soon uncovered some reasons for an unrecognized resistance to meeting any requirements in connection with her work, as well as some very ineffective work methods. After several months of practice with the new methods suggested she reported improvement in her work.

Individuals vary somewhat in the nature of their remembering and so must understand themselves as well as the process and suit their practice methods to their needs. Advertised memory systems are seldom of much practical value, except as they stimulate an individual to practice the steps in the process.

Remembering may be thought of as having four aspects: *receiving* an impression, *retaining* the impression, *recalling* the impression, and *recognizing* the recalled impression as the original impression. There has been much experimentation with each of these aspects and the following suggestions for improving memory are based upon results of many of these experiments as well as upon our understanding of the learning process in general.

Secure clear-cut, accurate, and vivid impressions of that which is to be remembered. Hazy or incomplete memories are often the result of original impressions of the same vague nature. One cannot remember what he has never known. A vivid or intense experience which involves an aroused state of being is much more likely to last than a more passive experience. Keen interest in and complete attention to whatever is to be learned are essential to the gaining of clear-cut impressions.

Intend to remember. Another important factor in remembering is to start with the intention to remember. It has been demonstrated in laboratory experiments that students make but little progress in memorizing materials to which they may have given much attention, if they do not understand that they are to be memorized, and therefore make no effort to do so.

Effective remembering is a selective process. Distinguish between what should be forgotten and what remembered. It is undesirable to clutter up one's mind with many details which are oftentimes important only in arriving at an understanding of principles or meanings. Those items should be selected for memorizing which are important for one's particular life purposes and which can be used in thinking and in all the other activities of living. Thinking requires both principles and facts as its materials, but an overburdened memory sometimes acts as a substitute for real thinking.

Emphasis should be placed upon the gaining of ideas or units of thought instead of unrelated details. Experiments have shown that meaningful materials can be memorized and retained much more easily than disconnected materials such as series of numbers, nonsense syllables, lists of unrelated words, etc. Whenever possible, details to be remembered should be fitted into a system of ideas and their relationships recognized. Thinking about these relationships and perhaps making outlines, charts, or diagrams to include them are useful aids. The same statement may be made also about units of thought. Smaller units should be fitted into larger units until whole systems of ideas are brought together and related. Any one idea is thus less easily lost. This process has been described as tying facts or ideas into bundles.

Make as many associations as possible with the materials being learned. One's personal experiences will determine the nature of these associations. In so far as possible, it is desirable to form logical associations which will function in effective thinking about the problem later. When many items become associated thus in logical relationships, a single cue may recall without effort a whole series or system of ideas which are then available to be used in thinking and further study. All progress in learning is in a sense the improvement in ability to respond to reduced cues, and this principle of logical association is perhaps of first importance for efficiency in learning.

One good way to facilitate the forming of these logical associations is to keep a constantly growing list of problems to be thought about. These problems may be directly related to a field of study, or to other personal interests or experiences. Any facts or ideas pertinent to a particular problem can then be thought about in relation to this problem and logically associated with other ideas. Such associations will involve similarities and contrasts, and also inconsistencies of data, but they will result in order and system in the mind and will prevent the hopeless confusion which stultifies efforts to learn.

Where logical associations do not seem to come readily, any arbitrary sort is better than none. Some individuals find it desirable to associate new impressions with vivid mental pictures which they call up, or with sensations of sound or movement. One should study his own tendencies in making associations and try to utilize those which are best suited to the particular field of study and which prove most effective.

Provide for suitably spaced repetitions of the materials to be learned. This suggestion involves the factor important for all skill-learning, persistent practice. Mere thoughtless or meaningless repetition, however, will not help much, if any, to promote remembering. All of the conditions for effective learning should characterize the practice or repetition. The previous suggestions for securing and dealing with first impressions apply likewise to repetitions.

Spaced repetitions occurring at intervals are more effective than a series of unspaced consecutive repetitions. This fact has been verified in many types of experiments with both meaningless and meaningful materials. For example, if you wish to memorize a poem, a few readings each day for several days should enable you to learn it in less actual time than would more repetitions per day for fewer days, or many repetitions at one sitting.

Forgetting is very rapid in the first few hours after learning, but that which is retained after this initial rapid forgetting is lost much more slowly. The rapid loss at the beginning of learning suggests the desirability of more repetitions at the start than later on. In memorizing a poem or other materials, several repetitions the first few days, followed by fewer repetitions at longer intervals of time, have been demonstrated to be most economical.

There is experimental evidence which suggests that forgetting takes place less rapidly if practice is followed by sleep instead of other waking activities. The proposed explanation of this phenomenon is that the experiences which follow practice during a waking period have a retroactive effect on the previous learning, tending to inhibit or block its recall. It would be desirable to apply this suggestion in the learning of important or difficult materials.

Whole learning is usually more effective than part learning. A selection or a speech of not too great length will usually be more economically studied as a whole than in small units. If a poem, for example, is memorized in sections, the end of one section may tend to recall its beginning instead of the beginning of the next section. Unity and continuity of thought, if present in the selection, may also be interfered with in part learning.

Results for whole and part learning have varied in experiments with spaced and unspaced trials. Many factors enter in to determine which methods are most efficient. Breaking up lengthy and difficult materials into parts gives increased confidence and a sense of achievement, which spur one on. If the materials are first surveyed in their entirety, the parts may be kept in meaningful relationship to the whole, and the danger of unrelated units may be avoided. Early loss of first impressions is an argument for unspaced repetitions, but there seems to be some "physiological" factor which favors permanency with spaced learning. This seems to be true of both physical and mental activity.

Overlearning materials is a safeguard against their loss. Materials which are repeated just often enough to recall and repeat once are very likely to be forgotten at least partially in a short time. It is much more economical to review several times beyond the first successful recall than to stop with the first success.

Practice in recalling and recognizing impressions of materials learned is at least as important as repetition of the impressions. Recall with recognition is, of course, the significant aspect of memory, and is subject to training just as is the first step in the memory process—gaining and fixing impressions. Any improvement in the first step helps recall, but actual practice in recall is also necessary. It is important to note that remembering is not just recall, but recall with recognition. We may recall something previously experienced but not recognize it as such

and think it is new or strange. Practice in recognizing whatever comes to mind in its original or previous associations is significant for improving memory. Dr. Carl E. Seashore suggests the following rule of recognition, "Recognize the memory image as you would a friend," and adds as a corollary, "'Cut' your friend and he will cut you."

Fatigue, worry, or lack of confidence often hampers one's ability to recall. When any of these conditions is present, it is usually better not to continue an unsuccessful attempt at recall, but to return to the effort at a more favorable time. Mere lack of confidence may often be overcome by persistent effort to recall, making use of all possible clues to associations with the facts or ideas.

Voluntary forgetting may aid voluntary remembering. Dr. Knight Dunlap asserts that there are two "fixing" factors available: the effects of full attention, briefly given, to items which are to be remembered; and the effects of effort to forget. He stresses the point that items must not be allowed to lapse, but must be voluntarily put out. He considers that this volitional process is probably the secret of successful voluntary remembering.

Mere memory of itself is of no value except as it serves as a vehicle for thought. An eight-year-old idiot who recently came to the writer's attention could name the capital of any state in the Union when the state was named, but she understood nothing of what the information meant, for she had only the mentality of a four-year-old child. Any information is as useless as this stock of names, unless it becomes an integral part of experience and is used in thinking clearly about significant problems. Montaigne in discoursing upon the futility of undigested and borrowed knowledge says:

We labor but to cram our memory, and leave the understanding and the conscience empty. Even as the birds sometimes fly in search of grain and bring it in their beaks without tasting it to feed their young, so do our pedants go picking knowledge out of books, carrying it at the end of their lips, only to spit it out and scatter it to the winds.

We build our lives soundly only as we think soundly. We examined our methods of thinking before starting to explore our personalities and that discussion might profitably be

reviewed at this point to tie up thinking with the other building skills which we have just surveyed. Only as the principles and methods we have considered are applied persistently in daily living will they bear fruit in increased efficiency, and therefore in the conservation of time.

How may we conserve energy, that second major ingredient of life?

Bear in mind that conserving energy does not mean miserliness in expending it, unless something is temporarily wrong with the power plant. By conservation we mean consistently realizing our best energy potential and directing the energy into worthwhile channels of living. To do this we must determine the limits of our energy potentials and direct the expression of our energy in the ways that harmonize with our life purposes and goals. The bottling up of energy may cause as much difficulty as too rapid depletion.

Here, as in the drafting of our life plans, we must know ourselves and be guided by that knowledge, rather than try to conform to any general standards. However, there are certain factors common to all our human power plants, and there are likewise common principles of operation which we need to understand and apply with discretion.

The physical and mental mechanisms are interlocking gears in the human dynamo. The malfunctioning of one affects the other. We have already examined some of the principles of effective operation of our mental and emotional mechanisms, and so we shall concentrate here on a few of the principles of physical efficiency.

How may we determine the degree of our physical well-being?

One of the best indexes of good health is the amount of energy which we can easily marshal and the vigor and enthusiasm with which we attack both work and recreation. Persistent feelings of listlessness and depression and lack of zest for either work or recreation are danger signals which should be heeded. Worry or emotional disturbances are often contributing factors, though they may be interrelated with physical conditions. When a feeling of lassitude continues for any length of time and the causes cannot be determined, it is desirable to consult a physician. If one is attempting work suited to his ability and interests,

is not carrying too heavy a load, and is in good health, he should experience enthusiasm and enjoyment in tackling his work and should not feel harassed or overburdened by it. Unfortunate living conditions or unavoidable personal problems may be contributing factors where the energy supply is depleted, but if these can be ruled out and the condition persists, a careful checkup should be made.

Weight and diet are important factors in health. Extreme underweight or overweight or rapid loss of weight should receive attention. Individual variations from standard norms of weight in relation to height and age are to be expected, so that one should not be concerned by slight deviations. Physical type is now recognized as important in weight determination. The tall slender type, the average type, and the short stocky type are classifications used in some weight tables today. If you check your weight against one of the tables of weight norms in the Appendix, pages 305 to 306, remember that slight variations due to individual peculiarities should be allowed for. A feeling of general well-being should be, within reasonable limits, the criterion of what is a safe deviation from norms.

The same criterion may be applied within limits to the question of diet. However, since deficiency in needed food elements or an excess amount of some kind of food may not produce apparent ill effects at once, a check upon one's usual habits of food consumption, and readjustment where the food elements are not suitably balanced, may prove an important factor in health conservation and development.

The determination of minimum or maximum requirements of any particular food factor depends upon an evaluation of all factors in one's diet which should be considered and balanced as a whole. An adequate diet will contain sufficient protein for building tissue, a sufficient amount of fats and carbohydrates to yield energy, a sufficient and well-balanced amount of minerals and vitamins to regulate body processes, and enough bulky food or roughage to aid in elimination. Variety rather than monotony is also an important characteristic of a healthful diet.

McCollum and Simmonds, authorities on nutrition, recommend the application of the following principles to insure a diet adequate for the preservation of vitality and health:

The consumption of about one quart of milk a day per capita. Some authorities recommend a minimum of one pint

a day for adults, but consider one quart ideal. This is the one food for which there is no effective substitute.

The consumption in liberal quantities of leafy vegetables which are "protective foods" and serve also to maintain the intestinal tract in a hygienic condition through promoting elimination.

The consumption daily of a certain amount of raw vegetable food for the specific purpose of providing the body with a sufficient amount of the antiscorbutic substance.*

"If these simple principles are adhered to, the main features of an adequate diet will be fulfilled, and the remainder of the food supply may safely be derived from any of our ordinary milled cereal products, tubers, root vegetables, sugar, and meats."†

If the individual's daily regimen calls usually for a minimum of physical activity, he should not expect his body to take care of the same amount and kind of food as he would if he were active physically during most of the day. Also if most of one's physical growth has been attained, it is desirable not to consume too large quantities of proteins, the body-building and repairing foods. Of course, the body needs sufficient of these for continuous repair and, up to about twenty-five years of age, for some growth requirements as well. Candy and other sweets which are often consumed liberally are likely to be harmful in large quantities because they overtax the system with substances which it does not need in large amounts.

Hurry, anxiety, and worry should be avoided at meal times. Experiments with animals have shown that the digestive process stops when fear or anger is aroused. Regular meals under pleasant conditions and the avoidance of hasty snacks between meals at the lunch counter or soda fountain would greatly increase efficiency for many. The person who is much underweight might, however, benefit from a sweet drink or milk between meals. As in other matters of physical hygiene, one needs to study himself and discover from experience what is best for him.

Sunshine in moderate amounts and *fresh air* are other requisites for good health and maximum efficiency. Temperature

* Fruits should ideally be included in the well-balanced diet. It is also essential to drink sufficient water, probably at least the traditional six glasses a day.

† McCollum, E. V., and Nina Simmonds, *The Newer Knowledge of Nutrition, The Use of Foods for the Preservation of Vitality and Health*, rev. ed., The Macmillan Company, New York, 1929.

and humidity also have their effects on energy. Experiments have shown that a moderate temperature is more conducive to efficiency than either a very cold or a very warm atmosphere. More important than temperature, however, is the circulation of air. It has been demonstrated that people work better where the air is in motion even though the temperature is too hot or too cold, than in stagnant air under the right temperature. While we are noting factors in the environment we should not overlook the importance of adequate light. When the eyes are being used for reading or other close work, it is very essential not only that the light be adequate but also that it should not shine directly into the eyes or be reflected there from glossy paper or polished objects.

Suitable exercise and recreation are provided for in any well-balanced regimen of living. What constitutes suitable exercise and recreation depends on both the nature of one's work and one's individual needs. The strenuous exercise of the athlete or the late hours of the social lion or the butterfly may be a costly drain of energy for many, but each person can find those types of games and diversions which interest, refresh, and relax him and should allow a regular place for them on his schedule.

The right *alternation of work and rest periods* is vitally important in conserving energy. Usually two kinds of rest periods should be provided: very short stops between work periods of moderate length, and longer periods for rest and recreation. The optimum length of both work and rest periods depends in large part upon one's own personal rhythm which must be discovered through observation.

Good posture, personal cleanliness, and comfortable clothing, while merely noted here, are not unimportant factors. The influence of *surroundings in one's environment* seems to vary in degree with individuals. Some are very sensitive to color and form and others are relatively obtuse. Tastes vary, of course. One can, even if sensitive, build up barriers to an unpleasing environment, but, since we are constantly receiving some stimuli even unconsciously from our surroundings, it is desirable to provide, in so far as possible, those which arouse pleasurable reactions.

Adequate sleep affords needed opportunity for the recharging of batteries. Eight hours of sleep are generally considered as a

good average for an adult, though many profess to be able to maintain their efficiency with much less. With a little observation a person can soon determine what is a desirable amount for him. Restful sleep is as important as number of hours. It has been assumed that the first hours of sleep are most restful because they are the hours of apparently deepest sleep when noise least easily arouses the sleeper. Some investigations relative to sleep have indicated that the body rebuilding processes involving energy consumption occur during the first few hours of sleep, but that the remainder of the sleeping period is probably beneficial because there is least wear and tear on the muscles then.

If one has difficulty in sleeping, it is important to remember that sleeping habits are acquired like any other habits. Lying down and relaxing should be an immediate stimulus to sleep. Those who work to late hours often find it difficult to relax and lay aside the problems upon which they have been working, the mind remaining as active after retiring as before. Many devices have been found helpful for this situation. Among these are light reading, light exercise, deep breathing in the fresh air, a warm (not hot) bath, or calm thinking about pleasant matters. Dr. Donald A. Laird has recently recommended the use of sugar or other carbohydrates before retiring as an aid to sleep. He advises against warm baths or any form of exercise just before sleep. Anxiety about not sleeping is often a contributing factor in the continuance of the difficulty and in causing a sense of fatigue. Experiments have shown that the loss of one or even two nights' sleep need not seriously impair one's efficiency and may be made up in a fraction of the time lost. When sleep does not come, lying quietly in a relaxed condition affords rest and tends to induce the desired sleep.

But how *relax*? Bodily tensions are not relieved by sheer will power. Sometimes the direct effort to relax increases tension. Dr. Edmund Jacobson, who has given us some valuable hints for relaxing,* suggests that to relax one must first get the feel of tensions in order to be able to locate regions of tension. He advises some daily practice, while lying on one's back or sitting in a chair with arms at the sides and legs uncrossed, in tensing or contracting various large and small muscle groups

* Jacobson, Edmund, *You Must Relax*, Whittlesey House, The McGraw-Hill Book Company, Inc., New York, 1934. Dr. Jacobson's instructions and cautions, which are too lengthy to attempt to summarize here, could be studied profitably by the person who has much difficulty with this problem.

throughout the body until there is definite recognition of what each tension feels like. This should be followed by persistent practice daily at inducing weaker and weaker tension until the desired control is gained and complete relaxation can be achieved. Differential relaxation is, according to Dr. Jacobson, an important source of efficiency in any activity. By differential relaxation he means "a minimum of tensions in the muscles requisite for an act along with the relaxation of other muscles." The mastering of this art would, doubtless, prevent a tremendous waste of energy.

We have approached the problem of conserving time and energy from the viewpoint of building a life, not a fortune. The economic aspect of life, however, is closely intertwined with the other phases and should have its fair share of attention and planning. The acquisition and well-planned use of money is one means by which we progress toward many of our goals. An inadequate income or unwise use or loss of an income may prove a serious handicap in the execution of otherwise effective life plans. It is obvious that the amount and disposition of one's income have a direct bearing upon how one may spend both time and energy. A sense of economic insecurity may also be a source of depletion of energy.

The only real value of money lies in what it will buy in material goods, services, or other human values. Careful budgeting, wise expenditure, and safe investment of one's financial resources are the only ways to secure as many desired values as possible through the instrumentality of one's income. The need for long-time planning with respect to financial resources is evidenced in the lives of many who become dependent in their later years. Describing what happens to an average group of 100 American men starting out in life at the age of 25, Horace W. Davis in his *Money Sense** points out that 30 are not self-supporting at the age of 55, and 54 are not self-supporting at 65, while 82 die penniless. Social planning may some day help to solve this problem, but at present individual planning would seem to be the sensible and necessary course.

* Published by The McGraw-Hill Book Company, Inc., New York, 1934.

Chapter Nineteen

THE BUILDERS' GUILD

GETTING ALONG WITH OTHERS

One of our birthrights is membership in the mighty guild of human life builders. How are you using that birthright? Do you understand the privileges and duties of membership? Have you been initiated into the secrets of this fraternal order?

The importance of effective participation in this human guild was well expressed by Woodrow Wilson when he wrote:

A man *is* the part he plays among his fellows. He is not isolated; he cannot be. His life is made up of the relations he bears to others—is made or marred by those relations, guided by them, judged by them, expressed in them. There is nothing else upon which he can spend his spirit—nothing else that we can see. It is by these he gets his spiritual growth; it is by these we see his character revealed, his purpose, and his gifts. Some play with a certain natural passion, an unstudied directness, without grace, without modulation, with no study of the masters or consciousness of the pervading spirit of the plot; others give all their thought to their costume and think only of the audience; a few act as those who have mastered the secrets of a serious art, with deliberate subordination of themselves to the great end and motive of the play, spending themselves like good servants, indulging in no willfulness, obtruding no eccentricity, lending heart and tone and gesture to the perfect progress of the action. These have “found themselves,” and have all the ease of a perfect adjustment.*

What are the secrets of this art of getting along with others?

One of the most basic secrets of this art is very ancient, and, curiously enough, it is frequently overlooked by those who would master the art. It is none other than the Golden Rule: Do unto others as you would have others do unto you. To practice this rule we must, of course, look within ourselves to discover what we would *have* others do to us. Here we need to

* Reprinted from *When a Man Comes to Himself*, Harper & Brothers, New York, by permission of Edith Bolling Wilson.

exercise great precaution, recognizing that this rule deals with general principles of conduct, not with specific behavior. We should soon run amuck if we attempted to foist onto others all of our own idiosyncrasies of likes and dislikes. We must recognize, not only our own, but others' uniquenesses.

But what are some of these general principles of conduct? Let us examine a few to see if we agree upon them.

Each of us wishes to have his human rights respected. It is not always so easy to determine what those "rights" are, but if we apply the principle of "Live and let live," we shall attempt to live in ways that will not injure others or deprive them of their just dues, whatever these may be. Selfishly grabbing something for one's self and then patronizingly sharing it with others does not aid in cultivating fraternal sentiments in the hearts of one's fellows. The rule of fair play in our human guild is of a different sort.

Each of us likes to be recognized as worthy of attention and consideration. Being ignored by one's fellowmen is torture. We have already noted that even daredeviltry and crime are sometimes compensations for the sense of being a nonentity; the social snob is likewise seeking to feel important, using upon others the weapon which he may secretly fear for himself.

But shall we go about obsequiously bowing and scraping before others to cause them to feel important? Not if we respect them and wish them to respect us. The considerate attention which warms the heart is of the honest, straightforward sort which causes one to realize that his worth as an individual is recognized. If emotionally grown up, the recipient of this attention will be grateful that his weaknesses have been overlooked, and may even be spurred on to overcome them.

Unfortunately, not all adult members of the human guild are emotionally mature, and this fact causes endless difficulty in our human relationships. Shall we, then, in the interests of getting along with others, be insincere and evidence respect where we do not feel it? No one can answer this question for another, but there are two considerations which may assist us in determining our conduct: it is impossible to conceive of an individual who is not worthy of *some* respect, no matter how weak or emotionally infantile he may be in certain ways, and recognition of his worthy qualities may be one means of helping him grow up or improve; on the other hand, continuously insin-

cere manifestations of what one does not feel are certain in time to defeat their own purpose by breaking down one's inner integrity and eventually robbing one of the confidence and respect of others.

Each of us desires friendship and love, yet each has a realm in his personality where he wishes others to enter only upon invitation. This principle is one of the most difficult to apply skillfully, since that realm of sacred privacy differs widely among individuals. It is not always easy to distinguish between the inhibitions of a diffident person who may be longing for friendly comradeship, and the intentionally closed door in a personality. Neither is it a simple matter, always, to differentiate between the friendly overtures associated with an impersonal acquaintanceship and those which might lead to more intimate friendships. Some of our social faults are due to lack of discrimination in interpreting external manifestations of the inner man.

We have noted how we all build up within our personalities camouflages to cover up certain aspects of our real selves. Only as we become skillful in detecting and penetrating these mental masks can we understand either ourselves or others. And this understanding is essential to social skill. There are many signs to guide him who will observe carefully and thoughtfully. We unconsciously manifest many of our motives, feelings, and attitudes in our posture or carriage, voice, facial expression, gestures and other actions; even our inhibitions, forgetfulness, and failure to act may be revealing to the skillful interpreter of human nature. Our inner life thus makes its imprint on our outer being for the world to see and interpret if it can. Some lives are more like open books than others, but no one can completely mask his real self.

Returning to the question of closed doors, some individuals retain a childish curiosity or develop an unwholesome sort which urges them to explore beyond closed doors whenever encountered. Some also develop an overweening interest in the welfare of others and are unhappy when not striving to save others' souls. Neither type of person is likely to receive widespread affection or generous appreciation from his fellow beings. The person of curious bent can usually satisfy his craving for knowledge much more satisfactorily if he uses tact and keeps within his rightful bounds in other lives, inasmuch as his

probing is likely to meet with rebuffs anyway. The individual who is strongly motivated to insure his brother's salvation should caution himself not to take his responsibility as his brother's keeper too seriously, at least to restrain himself from usurping the job of the Almighty, and from depriving his brother of his own rightful joy of self-discovery and self-direction.

But let us not deduce from these cautions any suggestion that an impersonal, disinterested attitude is desirable in our human relationships. Not even second to the Golden Rule and perhaps implicit in it is the principle that *real interest in the welfare and happiness of others is a basic essential for successful social relationships*. Pretense of interest, when real interest does not exist, is certain to reveal its true nature in time and thereby cut off the pretender from any really satisfying contacts with his fellowmen.

Real interest in others may, to a certain extent, develop out of a recognition of the reciprocal welfare of the individual and the group, but ideally it should, in addition to this intellectual basis, have an emotional foundation developed through a cooperative shared living in which self is so truly identified with other lives that unselfish sharing becomes not a sacrifice but a means of self-realization. The truly social person radiates goodwill toward others because it is part of his very being. When group welfare means the loss of some personal comforts or benefits, he will consider such loss a sacrifice of lesser for greater values; concern for larger issues of group welfare are substituted for petty personal concerns and annoyances. Through sharing the best of oneself with others one transcends the limiting bonds of self and takes on the measure of the interests which are encompassed.

Very good in theory, you may say, but is not this altruistic socialized individual likely to be victimized by the selfish and the unscrupulous. Yes, we must admit the soundness of this contention. Beneath the veneer of our civilization there is a savage element which motivates the manipulation of others for selfish ends. If we would avoid being cat's-paws to pull others' chestnuts out of the fire or unwitting agents to unscrupulousness or foul play, we must indeed be as wise as serpents and as harmless as doves. But do not try to be one without the other; you will poison yourself with your own

venom in the one instance and offer yourself as needless prey to human vultures in the other.

This suggests another problem. To what extent can we justify our human desire to manipulate and manage others to gain desired ends? If we are realistic, we shall frankly face the fact that we are all doing it, accept it as a part of human living, and attempt to improve our skill in doing it harmlessly and unselfishly and with tact and finesse, for none of us likes to think he is being managed. But we shall recognize (or learn from experience) that any such manipulation of others will eventually act as a harmful boomerang if it injures those toward whom it is directed.

Integrity of purpose and action is the *sine qua non* of a socialized personality. Integrity or honesty does not demand, however, that we speak our minds freely as to all we know or think we know. Much of what we think as truth is likely to be untruth, and what we see as truth may not meet another's needs even though it concern him.

Integrity or honesty, like all other human standards, cannot be realized in perfection. Probably no one is completely honest with himself or others. The best we can do is to set our goals and work toward them without allowing the recognition of our human frailties and limitations to destroy our appreciation of whatever progress we make. We need to be able to face the childish and selfish, and even the dishonest, in ourselves and others and to be tolerant and charitable toward our findings without losing our sense of values or our desire for improvement.

Tolerance of others' attitudes, beliefs, and conduct is another basic secret in the art of getting along with our fellow builders. When we realize the immensity of our ignorance about ourselves and life in general, we shall not be quick to condemn another because he differs in some way from us. Our limited knowledge of the life process shows that each human being is the product of his total past which, if we understood it, would reveal the reasons for what he thinks and does. Differences become unimportant when viewed in the perspective of this knowledge.

So much for general principles. There are many more which we might consider, but we must limit ourselves to the most basic essentials in this discussion which should be merely a starting point for your own observation and thinking.

Now let us turn to some very practical considerations. What are the values of wide acquaintance among our fellow guildsmen? What are good criteria for the choice of intimate friends? How cultivate fine friendships? What are helps and hindrances to desired friendships?

Among the significant values of wide acquaintanceship are the broadening and enriching of our experiences and the increased understanding of life; still another is the wider sphere of choice of intimate friends which it gives.

Not everyone can be widely popular. Popularity is an elusive thing which seems to come easily and naturally to some, is hard-won by others, completely eludes some who desire it, and is not even sought after or desired by others. There is no normal human being, however, who does not desire intimate friends with whom he can share his thoughts and feelings and with whom he can engage in interesting activities. The inability to make or keep such friendships is sometimes a source of extreme unhappiness. We shall consider presently some of the hindrances both to popularity and to intimate friendships. First let us consider bases upon which we are likely to choose friends.

What are your criteria for the choice of intimate friends?

The following requisites for friendships are suggested for consideration. They are not listed in order of importance, and it is not assumed that all of them are essential to any particular friendship. They are included as a challenge to thought regarding your own criteria for the choice of friends and your own standards of what you hope to be able to contribute to a friendship.

Mutual attraction of personality.

Mutual interests.

Complementary interests.

Similar attitudes, ideals, and standards of conduct.

Absence of obnoxious or personally displeasing manners or personal habits.

Neatness of appearance.

Wearing qualities.

Dependability.

Unselfishness and mutual interest in each other's welfare and happiness.

Possibilities for mutual give and take.

What are some hindrances to popularity or to the formation of desired friendships?

Many have asked "Why don't I make friends?" or "Why don't my friendships last?" A study of the individual sometimes results in the discovery of a fairly obvious or simple answer to these questions. More often it reveals a complex of many factors of which the individual is unaware and which are working subtly to antagonize desired friends. Among the more obvious reasons are extreme self-centeredness, reticence or shyness in meeting people, obnoxious personal traits such as "offishness," priggishness, intolerance, mannerisms, untidiness or lack of personal fastidiousness, or preoccupation with work which leaves no time for social amenities. Some individuals form such a strong habit of daydreaming to compensate for their lack of friends that they fail to make the effort needed to be friendly. Probing for the causes of lack of social success often uncovers many insidious factors of which one was unaware.

Experimental work carried on in the Colgate University psychological laboratory has resulted in some rather definite conclusions by the workers there as to "why we don't like people." Dr. Laird and his associates have developed the following self-inventory as a result of their studies:*

TRAITS WHICH MAKE US LIKED

Give yourself a score of 3 for each of these questions you can answer "Yes":

1. Can you always be depended upon to do what you say you will?
2. Do you go out of your way cheerfully to help others?
3. Do you avoid exaggeration in all your statements?
4. Do you avoid being sarcastic?
5. Do you refrain from showing off how much you know?
6. Do you feel inferior to most of your associates?
7. Do you refrain from bossing people not employed by you?
8. Do you keep from reprimanding people who do things that displease you?
9. Do you avoid making fun of others behind their backs?
10. Do you keep from domineering others?

Give yourself a score of 2 for each of these questions you can answer "Yes":

* Laird, Donald A., *Why We Don't Like People*, New York, A. L. Glaser Company, Inc., 2d ed., rev., 1933.

11. Do you keep your clothes neat and tidy?
12. Do you avoid being bold and nervy?
13. Do you avoid laughing at the mistakes of others?
14. Is your attitude toward the opposite sex free from vulgarity?
15. Do you avoid finding fault with everyday things?
16. Do you let the mistakes of others pass without correcting them?

17. Do you loan things to others readily?
18. Are you careful not to tell jokes that will embarrass those listening?

19. Do you let others have their own way?
 20. Do you always control your temper?
 21. Do you keep out of arguments?
 22. Do you smile pleasantly?
 23. Do you avoid talking almost continuously?
 24. Do you keep your nose entirely out of other people's business?
- Give yourself a score of 1 for each of these questions you can answer "Yes":

25. Do you have patience with modern ideas?
26. Do you avoid flattering others?
27. Do you avoid gossiping?
28. Do you refrain from asking people to repeat what they have just said?

29. Do you avoid asking questions in keeping up a conversation?
30. Do you avoid asking favors of others?
31. Do you avoid trying to reform others?
32. Do you keep your personal troubles to yourself?
33. Are you natural rather than dignified?
34. Are you usually cheerful?
35. Are you conservative in politics?
36. Are you enthusiastic rather than lethargic?
37. Do you pronounce words correctly?
38. Do you look upon others without suspicion?
39. Do you avoid being lazy?
40. Do you avoid borrowing things?
41. Do you refrain from telling people their moral duty?
42. Do you avoid trying to convert people to your beliefs?
43. Do you avoid talking rapidly?
44. Do you avoid laughing loudly?
45. Do you avoid making fun of people to their faces?

Dr. Laird states with reference to scores on this test:

The higher your score by this self-analysis the better liked you are in general. Each "No" answer should be changed through

self-guidance into a "Yes" answer. The highest possible score is 79. About 10 per cent of people have this score. The lowest score made by a person who was generally liked was 56. The average young person has a score of 64. The average score of a person who is generally disliked is 30. The lowest score we found was 12. It is encouraging to note that the average young person has a score closer to that of the average liked person than to that of the average disliked person.

As a final admonition Dr. Laird says, "Like if you want to be liked." Those studied who expressed dislike for the most individuals possessed the largest number of generally disliked traits.

The traits listed above were chosen on the basis of trends of reaction to them by a large number of people, but not everyone will be equally affected by them. The two traits of borrowing and asking favors were used by Benjamin Franklin and Andrew Carnegie as strategy in making needed friends. Franklin is reputed to have turned an enemy into a lifelong friend by borrowing a treasured book from him, and Carnegie to have managed a rebellious partner by asking him to select horses for him. The admonition against flattery does not exclude the desirability of the right kind of a compliment or deserved recognition of achievement. If some of these traits were applied rigidly between intimate friends, they might tend to undermine the sincerity of the friendships. Talking about personal troubles, for example, if not overindulged in and with a mutual desire for each to help the other should probably be a privilege of intimate friends, though it is easy to see how a strong propensity in that direction could wreck more casual friendships. The list of traits probably represents one of the safest guides that has been developed in this field through research, but its use does not preclude the necessity for studying and adjusting to the idiosyncrasies of those with whom one wishes to be friendly. Also, any such list can never be applied successfully without *the basic characteristics of genuine interest in people, a sincere courtesy, and unselfish consideration of other's rights, attitudes, and desires.*

These characteristics just mentioned are the foundation stones of good manners, reference to which should probably be included in any discussion of social relationships. We might not agree with the motto that "Manners makyth man," but we would probably all agree that manners *bespeak* the inner

man. They might be thought of as the oil of social relationships which keeps them going smoothly. The individual who assumes manners that are obviously not habitual may cause amusement by his artificial conduct. However, "good manners," including correct etiquette, the social graces, and the desire to contribute one's share to the pleasantness of any social activity, are excellent personal assets as well as means of increasing one's own enjoyment. One who has missed out on social training of this sort would do well to study some authorities on etiquette, check on weak points, and improve them by practice until they become automatic and can be relegated to the habitual aspects of life. One is then in a position to determine in what respects he prefers not to conform to traditional modes or manners in the interests of greater life values.

Appearance counts. A young woman came into my office recently to see if I could discover why she was no longer being called as a substitute teacher in the schools. One glance at her appearance gave me a partial answer—unkempt hair, an unbecoming, tattered hat, a soiled, ill-fitting dress though made in the latest mode. I found upon inquiry that every principal in whose school she had substituted the previous year had requested that she should not be sent again. This young woman had had excellent college training, had a good scholarship record, and should have been in a position to earn her living and give a worthwhile service. She was in desperate financial straits with others dependent upon her and with no apparent way out of the dilemma. The very first impression developed an unfavorable attitude in those with whom she came in contact. One would like to report that she was informed of her difficulty, overcame it, and lived happily ever after. Such outcomes could be reported by almost anyone who has worked very long in the guidance field. Unfortunately in this case a closer inspection revealed rather deep-seated personality trends which somewhat harmonized with the outer appearance. Here the exterior bespoke the inner man as is so often the case with appearance as well as manners. She may master her difficulties yet, though, if she had started on the task several years ago, her chances of success would have been greater.

An attractive appearance does not depend upon expensive clothes of the latest fashion. Well-chosen fabrics, becoming styles, and colors which emphasize one's best features and

serve as a fairly unobtrusive setting for one's personality rather than detract all attention from it; neat and well-cared-for clothing suited to the particular occasion; and personal cleanliness and careful grooming are among the important aspects of an attractive appearance. A little study and thought about matters of dress and grooming can soon result in their relegation to the same habitual place in living as manners, if they are not already there.

Have you acquired skill in some prevailing activities? No matter how correct one's manners or appropriate one's attire may be, there is still danger of being a wallflower or an outsider if one cannot enter into activities with a certain degree of skill and finesse. Whether this skill be in sports, dancing, card playing or other games, conversation, special talents, or a combination of several depends partly on the interests and aptitudes of the individual. The important thing is to have at least a moderate amount of skill in some. No one today need lack the opportunity to become proficient in several activities. Sometimes one who is handicapped in this respect will expend his energy in regretting his limitations or in daydreaming about impossibilities instead of taking the initiative in planning and executing a program of training.

Skill in conversation as an art is perhaps less often developed by Americans than most other types of social activity. The French writer, Dimnet, has made some enlightening comments on our lack of conversational skill in America. He writes,

There is hardly a vestige of conversation left in America. Worse than that, the word has ceased to have any meaning. The question so familiar in Europe: "What was the subject of conversation at dinner last night?" is never heard in the United States, and if it were, it would sound as preposterous as might be the question: "What was the subject of conversation at your dance?"

Few indeed are the people who, hearing the word conversation, remember that the name, and, no doubt, the thing in its perfection, came from Italy. The guests at a house party would sit in *circolo* to have a *conversazione*, that is to say, each one in his turn would give his opinion on some topic. Perhaps, before another generation has vanished, people will not know that a "general conversation" means one in which, no matter how many people are assembled, only one voice is heard at a time. Americans, who always credit the "Latins" with vehemence and exuberance, would be surprised indeed to see how a dozen or even more people in Rome or Madrid, or

Buenos Aires, can keep their native effervescence in check to enjoy a conversation. They have a sense of absolute freedom, yet they obey two rules which were impressed upon me in childhood till they became law: *pas d'apartés et pas de monologues*; no asides and no floor-holding! Asides especially were supposed to be the characteristic of a boor. This admixture of pleasure and profit, consciously yet not laboriously sought, is, undoubtedly, one of the most civilized enjoyments that urbanity has made possible for mankind.*

Dimnet considers one of the chief causes of the lack of conversational ability to be the habit of hostesses of giving large parties instead of limiting themselves to the "number of the Muses." Modern life may offer many opportunities for gatherings of this favorable number to promote worth-while conversation, but it also presents many opportunities in larger gatherings for the type of degenerated vocal activity described by Dimnet as "reciprocal volleys . . . poured out as they used to be in the naval battles of yore when the guns answered one another nose to nose." We would do well to revive and improve this art of conversation, securing practice not only in light and playful repartee, but in the more thoughtful and serious give and take which may be really creative. The growth of fine friendships is stimulated by such creative sharing.

* Dimnet, Ernest, *What We Live By*, by permission of Simon & Schuster, Publishers, New York.

Chapter Twenty

THE BINOCULAR VIEW

EXTENDING OUR HORIZONS

We have been exploring within our personal estates, inspecting and evaluating the resources there, examining our building plans, and checking on some of our techniques as builders and fellow-workers. *What is the setting and what are the boundaries of your personal estate?*

The answer to this question constitutes one of the most important facts in your life. And one of the marvels of life is that you hold within yourself the power to determine the answer. And so do we all. We need not be limited in our personalities as we are in our material possessions. We may covet our neighbor's land but he may not wish to sell it or we may not have the wherewithal to buy it. *But in our personalities we are circumscribed only by the depth and breadth of our power to interpret and utilize what we can bring within our focus.* No one's possessions in this realm can be limited by those of another, and the sharing of these possessions with others enhances them for the sharer.

How may we survey this vast realm to determine where we shall extend our boundaries? Speaking figuratively we need to take up our position on the highest point of our estate and train our binoculars on the horizon in all directions. The view may seem limited and even uninteresting at first, but, if we persist in the process, our mind's eye will gradually adjust itself to increasingly greater depth and wider field of vision; as we perceive more and more of the variety and richness of detail and the complexity of interrelationships among the different elements in the picture, catch the shifting interplay of light and shadow, and, more awesome still, watch the picture itself change, we shall have missed some of life's high moments if we do not feel the bonds of frustration and futility loosening and joyfully take up our brush and palette, inspired to add our own personal touch, no matter how small, to the picture. Such

moments vouchsafed to us give the perspective and courage needed to press on through life's foggy stretches, knowing that we shall some day emerge.

But we have spoken figuratively. *What are the actual means by which we expand our horizon?* Let us carry our metaphor a step further. There are, as it were, two sets of lenses in our binoculars: one set to use in observing conditions, persons, and events about us; another for reading the records of others' experiences in all ages.

Let us examine some of the ways of using the first set of lenses. My neighbor, sitting in a secluded spot in her yard, is using some field glasses to observe the birds as they come and go. She can tell me interesting things about varieties of birds and their habits which I have never stopped to observe. Of my friends who have gone on long voyages, two have impressed me with their findings. One returned with trivial gossip about incidents of the journey and her experiences with her fellow-travelers; the other, observing keenly and significantly, brought back a wealth of clear perceptions and new interests. If one passes thoughtlessly through life, the experience of living may mean no more than would traveling through a great city's subways, noting the station signs instead of exploring the city itself and living among its people.

The minds of our associates are among the most interesting places to observe and explore, but here we are often bunglers. We have recently become so keenly aware of the human values inherent in the direct exchange of ideas that study and experimentation have been directed toward formulating the most effective methods for use with purposive groups. One outcome is the panel conference method, the essential feature of which is a discussion group and a leader substituted for a speaker and a silent audience. One or more members of the group may introduce briefly the problem for discussion, but the ball soon passes back and forth between the various members with the idea of bringing out varied points of view and facts pertinent to the problem. Eventually everyone may be drawn into the game and the result of the panel conference, when skillfully handled, is an alert, interested, thoughtfully challenged group of active participants instead of a passive group of listeners or spectators. The leader may frequently point out significant developments, shift the direction of discussion, and in the end

summarize any conclusions which have been reached. The purpose of such a conference, however, is usually not so much to reach definite conclusions as to facilitate exchange of ideas, stimulate further thinking, and extend the horizon of the group. Similar values may be realized in various informal ways with small conversational groups.

This emphasis upon socialized study of our common human problems is an outgrowth of many causes. Scientific investigation has so expanded the boundaries of our knowledge about the universe, our own world, and its inhabitants that no intelligent person would today lay claim to having mastered its essentials, or even entertain such an ambition. This knowledge applied to the physical environment has vastly increased man's ability to control and modify his physical world. But neither the necessary knowledge nor ability to cope with individual and group problems of living in this changed physical world has increased correspondingly. A period of economic chaos has forced upon us the necessity of facing these problems of living cooperatively with a view to increasing both our understanding and our control of them. Even if it were possible for a few researchers to cumulate and organize all of the knowledge required to deduce scientific formulas to solve our human problems of living, such an approach to the task would, by itself, be unsatisfactory. For in the comprehension and control of our social order lie the means for creating a *new* social order and hence a new way of life. And that new way of life, as it emerges, will determine in large measure what we ourselves shall be. Such a significant life potential cannot safely be controlled by a few.

One of our tasks as life builders then is to cooperate with our fellow-builders in studying and improving our social controls. The results of our cooperative efforts will partially determine to what extent each may become a master builder in his own life. We need to utilize all the pooled research bearing on our social problems, but we must have, also, a social philosophy which will enable us to envision the good life toward which we wish to strive. While confusion and conflict characterize today's social philosophy, there is much evidence that we are emerging from the period of widespread futile striving for happiness through material gain into a period where richer and fuller living through our work, love, and play may be the wealth for which we strive. Our social heritage of past human experience

can give us the perspective needed to orient ourselves and clarify our vision of the emerging future.

For this we need books and other printed records of the past. So, let us shift to the second set of lenses in our binoculars, and examine ways in which we may avail ourselves of this richest portion of our social inheritance—the recorded experiences of others. If we choose wisely from among this vast array of records, we may fraternize with great minds and become citizens of the world and of all times. Through reading we may acquire the understanding of our physical universe, racial development, social structure, and human nature needed for an adequate orientation in our modern world. We may also secure the vicarious experience which enables us to transcend some of our human limits of time and space.

That is, we can do all of this *if we read effectively*. But studies have shown that many do not. Surveys of reading ability of high school and college students have revealed wide individual variations ranging from a high degree of skill down to the level of elementary school pupils. But there is also evidence to indicate that very definite improvement in either speed or comprehension in reading may be achieved through the right kind of practice. Dr. Arthur I. Gates has estimated that if every literate American over fifteen years of age who spends two hours or more a day in reading could be given a month's effective training in improving his reading skill, the saving in time, valued at fifty cents an hour, would amount to more than five billion dollars a year.

How may reading ability be improved? Improvement in this skill depends in general upon two things: the analysis of specific difficulties and regular remedial practice suited to overcome these difficulties, and persistent effort to read faster and more understandingly.

Daily effort for ten or fifteen minutes in forcing the eyes to go as rapidly as possible over the reading material used for practice, trying at the same time to comprehend as much as possible, will result in improvement. However, it is quite as necessary to use correct and effective methods in this reading practice as to use right strokes in tennis or golf, if a high degree of skill is developed. Motion pictures of tennis or golf players, in which the action is slowed down to permit careful scrutiny of the players' techniques, have aided in analyzing many aspects of

skillful playing. Photographic pictures of the eye movements of skillful and poor readers have likewise revealed some of the factors which enter into effective reading. The reading process is so complicated in nature that not many of the steps can be visualized in this direct manner. We shall attempt, however, a brief progressive word picture which will enable us to analyze some of the steps involved and consider ways in which those ineffectively performed may be improved.

What are the factors involved in effective silent reading? Silent reading involves the observing of certain symbols and the interpreting of them in terms of the meanings for which they stand. It involves the visual mechanism and a complicated series of sensory and motor coordinations and of mental processes of discrimination and interpretation. We shall consider several factors independently before dealing with the reading process as a whole.

*Vision.** Since the visual apparatus is a connecting link between the printed page and the mind of the reader, any defect in this delicately adjusted mechanism can have a significant effect upon the reading process. The human eye has been used for the close work of reading the printed page for only a few hundred years and probably is not yet well adapted at its best to the strain placed upon it by the large amount of such work demanded today. Primitive man required eyes suited chiefly for long-distance seeing, which calls for only a small fraction of the amount of adaptation and expenditure of energy demanded by reading. When a defect of any sort is added to this general difficulty of adjustment in the functions of the eye, the result may be marked impairment of efficiency in reading.

The majority of people are able to adjust to slight deviations from the normal without serious strain resulting. Because of the adaptive power of the muscles of the eye even serious defects may not always be detected readily. Continuous use of the eyes for reading, however, will inevitably produce some symptoms of strain if abnormal adjustments are required. These symptoms may be local, including blurred vision and painful eyes, or they may be more general, including headache, fatigue,

* The sections on Vision and Motor Adjustments were prepared in collaboration with Helen Kennedy, Reading Consultant, and were criticized by Dr. W. G. Scanlon, Physician Inspector, both of the Pasadena City Schools.

and innumerable manifestations varying with the individual. Severe eye strain not only impairs efficiency in reading but the general health as well, and the difficulty causing it should be discovered and corrected by a thoroughly trained eye specialist.

A high degree of visual acuity, that is, the accurate focusing of images on the retina of the eye, is important for effective reading. Correct fusion of the images received by each eye, a process called binocular single vision, is likewise a significant factor in the close work of reading. The fact that an individual sees clearly with each or either eye does not mean that he will have comfortable binocular vision. This power of fusion, including stereoscopic vision or perception of depth, normally develops gradually during early childhood, but it may be retarded or interrupted by various causes and fail to develop fully. In such cases special treatment may be needed to develop normal fusion, and such treatment is, of course, more effective before visual habits have become too fixed. Home treatments with the use of a stereoscope are sometimes helpful but if attempted should be carried on in accord with the advice and instructions of an eye specialist. If an eye examination is secured, it is desirable to be sure that fusion as well as acuity and other visual conditions and functions has been checked.

It has been estimated that in five minutes of reading the eye makes ordinarily more than 1,000 separated movements and as many fixations, and that as much energy is expended in this amount of reading as would be required for hours of distant seeing.* This would indicate the need of resting even normal eyes fairly often while doing intensive reading. One simple device for this purpose is to interrupt the reading occasionally for a few minutes and focus on distant objects, thus relieving the tension of the eye muscles required for close-range work.

Motor adjustments. Efficient reading usually seems to be associated with certain types of *eye movements*. Photographic reproductions of eye movements during the reading process have shown that the eyes do not move smoothly across a line of print, but rather with a series of jerks and stops which are, however, systematic and progressive in efficient reading. It is during the stops or fixations of the eyes between jerks that impressions

*Terman, Lewis M., and John C. Almack, *The Hygiene of the School Child*, Houghton Mifflin Company, Boston, 1920, p. 242.

are received and approximately $1\frac{3}{8}$ to $2\frac{3}{4}$ of the reading time is spent on these stops. Probably no impressions are received between fixations.

Since most of the reading time is consumed by the eye fixations, it is important for increasing the reading rate to utilize these fixations in the most effective manner possible. To do this it is important to understand the nature of central and peripheral vision. The central vision is probably limited to a few letters, though lateral movement following a fixation and preliminary to the next fixation during the reading process widens the field of central vision somewhat. Accuracy of perception is a function of this central vision, which some eye specialists claim cannot be widened without impairment of its function.* The peripheral field of vision functions to give more general impressions of form, shape, size, color, movement, etc. Widening the span of recognition during an eye fixation involves especially the use of the peripheral field of vision to obtain cues for recognizing words or phrases without actually seeing all details. The effective use of such cues in anticipating context makes it possible to determine the most economical fixation points for central vision. Some persons, perhaps because of faulty reading habits acquired early in life, fail to utilize these cues of peripheral vision, see only a word or part of a word during each fixation, and so stop many times while reading a line of print. They may read fairly rapidly if the pauses are of short duration. *The efficient reader, however, usually stops only a few times on an average line of print and takes in several words at one glance. He does not see each letter or even each word, but gets the meaning of a larger unit.* The number of stops or fixations per line will vary considerably with different types of material and with the purpose of the reader. For example, many more fixations of the eyes are made in reading scientific formulas than in regular prose reading, or in reading to master difficult or very unfamiliar material than in scanning easy familiar material.

The character of the eye movements in reading is due to many factors and cannot be controlled just by practice of the eye movements themselves. Practice in forcing the eyes to move

* Mills, Lloyd, "The Function of the Eyes in the Acquisition of an Education," *The Journal of the American Medical Association*, Vol. 93, pp. 841-844, September 14, 1929.

across the lines of print as rapidly as comprehension will permit and the reduction of vocalization which involves vibration of the vocal chords and sometimes movement of the lips usually help to improve eye movements. Easy materials in which the vocabulary is suited to the background of the reader should be used for such practice, so that effort may be concentrated on speed and rhythm. Good rhythm involves not only regular movements of the eyes across the lines, but a smooth sweep from near the end of one line to near the beginning of the next.

If the span of recognition is very limited, it is sometimes helpful to engage in practice directed to the overcoming of this specific difficulty. A column of a newspaper is good to use for drill because of its narrow width. Try moving the eyes down the center of the column grasping as much as possible at one glance and attempting to fill in or supply from the context words or phrases not actually seen. Cards upon which printed phrases have been pasted could also be used. One should begin with short phrases, looking at each card only an instant, and gradually increase the length of the phrases used. Even a primer or elementary reader could sometimes be used to advantage in this sort of drill. Improvement will, of course, depend upon persistent practice over a considerable period of time.

By learning to overlook unimportant words, to concentrate on the significant words and phrases, and to combine these into larger units of meaning, it is possible to include more in a single act of comprehension. One is thus carried along by the drift of the theme or the story rather than held back by the dead weight of individual words. Having someone blot out the unimportant words in magazine articles you have not read and then attempting to read them with rhythmical eye movements until the meaning is clear may help to establish the habit of filling in unimportant words from the context.

A high degree of perfection in any skill involves the *elimination of all superfluous movements* and the conserving of energy for the important ones. Many individuals dissipate energy while reading by nervous habits such as shrugging the shoulders, scowling, squinting, tapping with the fingers, or moving other parts of the body. This lost motion should be noted, if present, and prevented by checking upon one's self until the habits involved are overcome.

More serious than any mentioned above in retarding reading speed is the habit of vocalization, that is, speaking or whispering the words, moving the lips, or any undue activity of the vocal organs while reading. The eye can perceive words much more rapidly than they can be pronounced, so that this habit of vocalization is certain to slow up the reading process, as well as dissipate energy and distract the attention. There is some slight vocal activity or muscle tension with the best of readers, but one should note the presence of any obvious manifestation of this activity which may interfere seriously with the speed of reading, and should attempt to overcome it. Practice in reading rapidly seems of itself to reduce vocalization.

Mental background and habits. A limited vocabulary in general, or an inadequate vocabulary for a particular field of study, may hamper reading efficiency. If you are not a wide reader of literature and current periodicals, your general reading vocabulary is doubtless in need of expansion. Each field of study also has its special vocabulary of technical words and terms, which need to be mastered before fluent and accurate reading can be achieved. Following are suggestions for increasing your vocabulary:

Have a good dictionary at hand while reading and look up new words or those about which you are uncertain as to exact meanings.

Note derivations of words so that you may become familiar with roots, prefixes, and suffixes and thus develop proficiency in analyzing words and deducing their meanings from their derivations. It is also interesting and helpful to note changes which have occurred in the meanings of words. Words have been compared to little boats coming down from the past laden with all the meanings that have been attached to them through the ages. Tracing their histories is often as interesting as reading a story, and it helps to reveal fine shades of meaning otherwise lost, as well as to make them more permanent possessions in the memory. Knowledge of other languages which have influenced our own should be utilized to the largest possible extent in analyzing words.

Judge the meaning of new words from the context whenever possible. It is not desirable to interrupt the reading often to look up new or uncertain words. The exact meanings of important technical terms should usually be discovered when they

are first met in any field, but aside from these and other words which, if not understood, prevent fair comprehension of what is being read, uncertain words may be marked or jotted down to look up later. These words may then be reviewed in their context and any inaccuracies of meaning corrected.

Note nice distinctions in the use of words by different authors or in various fields. Practice of this sort will improve one's efficiency in judging shades of meaning from the context and will help to make one more word-conscious.

Keep lists of new words encountered and in leisure time review these words and practice using them in speaking and writing. One's reading vocabulary is always much larger than one's speaking and writing vocabulary, but using a word makes it a more permanent possession than does merely recognizing it in print; also words used as a vehicle for one's own thoughts, when met in print, facilitate richer associations important for both comprehension and retention of what is read.

Securing a bird's-eye view of materials before careful reading is done helps to make the latter more meaningful. Topics and details can then be seen in their proper perspective and relationships, and the reader can more easily judge as to the relative importance of each. With a book it is desirable to become familiar with general features first, such as title, author, date of publication, its place in a series if not a unit by itself, etc. These will usually give clues as to the nature and scope of the work and its dependability as a source of information or of worth-while judgments or points of view. The training, experience, and present position of a living author can be looked up in *Who's Who* if not known by the reader,* and the preface will often give helpful pointers as to the author's approach to his subject and his methods of dealing with his materials.

The table of contents, chapter headings, and section or topical headings, where given, should be noted to secure a general understanding of the scope and organization of materials. Whether it is a book, a chapter, or other selection being read, note what is introduction, body, or conclusion, and note the main divisions or topics of the body of the selection. When a

* There are good dictionaries of biography which may be consulted for authors who are no longer living. The *Dictionary of National Biography* for British subjects and the *Dictionary of American Biography* are among the most comprehensive sources.

selection has been surveyed to note these points, the more careful reading can be done much more effectively, since it is then possible to see more clearly the relations of details and sub-topics to the main divisions or topics.

The central thought or theme of a book, chapter, or selection can usually be secured while noting organization. This central theme is often introduced in the author's preface or the opening chapter or paragraph. Concluding chapters in books, or paragraphs at the end of chapters, often sum up the main ideas in a concise manner, and can be used to advantage in securing a preview. Each paragraph should be considered in its relation to the central thought of the chapter or selection.

A well-organized paragraph, like a book or chapter, has a main thought or theme around which it is built, and the efficient reader has developed skill in locating the topic or key sentence containing this central thought. The rest of the paragraph is usually an elaboration of this central idea and contains details which are organized around the main theme. This ability to note key sentences and their relationship to details enables one to follow through threads of thought without becoming lost in a mass of details, and also helps one to judge better as to where to read carefully and where to skim, if it is not necessary to note and remember details.

The securing of facts and details and the distinguishing between facts and opinions are important for effective reading. Attempts to increase reading rate may result merely in hazy, inaccurate impressions unless sufficient attention is given to practice in securing exact impressions of details in their ordered sequence. Except when reading purely for appreciation of style, beauty, rhythm, etc., there should also be a critical attitude of trying constantly to distinguish between facts and opinions. When asserted facts are encountered, ask such questions as: Is this true? How do you know? Why is that so? Is this a tested truth or merely a best judgment of the author or someone else? This critical attitude has the additional value of keeping one alert and better able to concentrate. It is important not only to note facts accurately, but to see them in ordered sequence, and to distinguish between main and subsidiary facts.

To improve skill in these respects, try jotting down the main facts in a paragraph or section just read and then fill in the subsidiary facts related to each of the main facts. Check back

over the selection to be sure that no important ones have been omitted and that none have been stated inaccurately. Again try scanning some selections just to discover important facts, and others to note details, but always keep these related to the main points.

Reading rate. We have now looked at the external observable steps in the reading process and have considered the mental background and habits involved in comprehension. The next question is how the action can be speeded up. The answer as for most skilled techniques is well-directed practice. With the visual mechanism in good condition, undesirable motor habits eliminated in so far as possible by conscious effort, and comprehension reasonably well in hand, the next step is to force the eyes to move over the printed page as rapidly as *comprehension will permit*. It is desirable to practice with various types of reading materials such as newspapers, magazines, and books of varying difficulty so that the speed will not always be retarded by the sort of compact material found in some books. Records of the time required for a given amount of each type of reading in successive practice periods are usually both interesting and helpful. The incentives of competition with one's previous record and evidence of improvement are thus brought into play.

The saving of time is not the only reason for emphasis upon speed. Tests have shown that rapid readers usually comprehend what they read better than slow readers. This fact is partially dependent upon the nature of attention. We have already noted that the mind does not attend to any one idea longer than a very few seconds, and, if it is not called upon to move fairly rapidly from one point to another, it easily goes wool-gathering and concentration is not achieved. The reading speed should be fast enough to keep the attention within bounds and thus aid concentration, but it should not be so fast as to impair the sort of comprehension desired, which will vary with the purpose of the reading.

Have you developed an adequate reading rate? Rate of reading is conveniently expressed in terms of number of words read per minute. If you wish to check your own reading rate roughly, choose a passage in a text of average difficulty and read steadily for exactly five or ten minutes. Estimate the number of words read by counting the lines in the section read. Multiply this

number by the average number of words per line, which can be estimated by counting the number of words in each of ten or fifteen lines. Then divide this product by the number of minutes read. If the results do not show well over 250 words per minute, you can probably increase your reading rate considerably with practice. A reading test which measures speed and comprehension and several specific skills involved in reading, and which will be preferable to the method of checking suggested here, is included in the test list on page 309.

What are the various purposes for which we read?

"Some books are to be tasted, others to be swallowed, and some few to be chewed and digested."

We shall not attempt to apply this well-known quotation to classes of books, for that is an individual problem varying with each reader, but rather to the types of purposes in reading, which we shall roughly group under four headings. These groupings are not mutually exclusive, but continuously overlap and may all be present in some reading experiences.

Skimming. This type of reading can be achieved only when the technical aspects of reading have been brought to a fairly high degree of proficiency and even then should be used only for specific previewing purposes such as discovering the scope, central thought, or organization of a book, article, or passage, a point of view of an author, or facts about a particular subject. Of course, fiction, drama, or poetry, where interest is in a developing plot or appreciation of style or beauty, might suffer or gain nothing from this preview. In skimming the eyes will skip unimportant words or phrases, and even whole sentences and paragraphs will receive only cursory glances at times. If misused, skimming can easily cause the development of habits of superficial and inaccurate reading in general. Wisely used it becomes the open-sesame for wider and more effective reading.

Mastery of content. This may involve "swallowing" the material, hook, line and sinker, without criticism or personal reaction of any sort. Mastery is a misnomer if the reading process goes no further than this, since the mind becomes merely a sponge and usually a sieve also. Whatever is retained in memory under such conditions is useless until applied to some problem or reacted to in some way. It is essential as a first step to find out

exactly what the author is saying and to secure accurate impressions of major and minor points in their relationships. It is often helpful in doing this to stop occasionally, even at the end of each paragraph, and summarize what has been read or answer pertinent questions about it.

Careful reading of materials which have already been skimmed rapidly to secure a bird's-eye view and to ascertain the worth-whileness of more attention will offset the otherwise bad effects of too much rapid skimming. The effort should be made in this careful reading, however, to increase the speed as much as possible without interfering with accurate comprehension. When the material is in a field with which you are little acquainted, or when your purpose in reading it is solely to discover new facts, mere mastery of content without personal reactions or reflection may, for the time being, be perfectly justifiable.

Criticism. Here we shall consider the process of "chewing and digestion." Just as it is necessary for food to be acted upon by the digestive fluids before it can be assimilated by the body, so, figuratively speaking, it is necessary for mental food to be acted upon by the juices of the mind—the thought processes—before it can be assimilated and play its part in furthering mental growth. Good reading is really good thinking which draws upon both the ideas expressed on the printed page and the mental background of the reader for its materials. An alert and critical attitude is necessary—an attitude which causes the reader to challenge new facts, question their authority and truth, check upon their sources or perhaps accept them only tentatively until further proof of their reliability can be secured, compare them with previously acquired information, question the soundness of points of view expressed, trace and criticize the logic of their development, reflect upon the implications of both facts and viewpoints not brought out by the writer, and try always to check new facts and ideas against previous experiences and apply them to new problems.

The extent to which a reader can carry on this thinking process depends in large part upon his orientation in the field in which he is reading. A scientific treatise on the quantum theory or on radio may allow of little or no critical thinking by one who has no background of experience in these fields of study. Likewise a reader of history may at the start be entirely

uncritical as to historical evidence or interpretation, and be unable to evaluate conflicting statements. It is necessary to become familiar with the methods of research in a field and to build up a background of basic information before the critical thought processes can be extensively exercised. Each field of study, however, deals with a phase of life, and its separation from other fields and its organization within a compartment are in a sense artificial simplifications to aid study or research. Each field, no matter how technical, has its relationships to and implications for human life, and the novice can search for these and begin his critical thinking here while he is developing background and skill in the more technical aspects.

The modern reader needs a high degree of skill to steer his mind between the Scylla of gullibility about anything seen in print and the Charybdis of authoritarianism. It has been said often of late that the authoritarianism of past centuries has been replaced by tested truth, but "What is tested truth?" is as pertinent a question today as was Pilate's famous question in his day. Fortunately we no longer have an Aristotle or an absolute standard against which to check new ideas, so that our literature need no longer be an imitation of ancient classics to be "literature," and our scientific knowledge need not conform to Aristotle to be true. This sort of authoritarianism has been replaced by the authority of the laboratory and the scientist, but the difficulty for the reader lies in the fact that this authority is in a constant state of flux.

Scientists no longer try to formulate laws of nature, but rather deduce and postulate hypotheses which serve as guides to the discovery of new truth and are often replaced in the process. Of course, the main body of scientific knowledge represents a fairly definite evolution and expansion rather than the revolutionary overthrow or discrediting of supposedly tested truth. But partial truths may give distorted perspective and necessitate constant shifts in viewpoint as they come nearer to being whole truths. For the modern reader, then, there can be no fixed standards of judgment. His Charybdis is constantly shifting and changing and he must ever be ready to shift his course in turn, revising and reevaluating his store of tested truth, and adapting his points of view and his thinking accordingly. He can never rest on his oars for any length of time without danger of drifting out of his course and losing his sense of direction.

More dangerous than the shifting course of tested truth is the deception of the propagandists or the charlatans. Their *intentions* are to deceive the reader, and they develop many clever devices for blinding his eyes while they lure him into their traps. Their lures assail us on every side today in masses of half truths, distorted facts, and emotional appeals which look plausible in cold print. The modern reader must be critical and on his guard if he escapes their wiles.

Enjoyment and enlightenment. Reading of this type at its best is what Anatole France described as "the adventures of the soul among masterpieces." But too often it is merely a passive way of consuming time. Reading for pleasure should take the attention away from required duties and afford rest and recreation. It may well serve as an escape when such is needed; but it may also serve as the source of the finest enrichment and liberation of the human spirit.

Two things are necessary to achieve these ends: the development of taste for worth-while books; and the development of the habit of reacting as actively to books read for pleasure as to those read in connection with work. The time for such reading is, of course, assumed, and ought surely to be provided.

Good taste in reading to us moderns does not involve adherence to certain rigid standards of criticism as it did to many previous generations. The literary critics are still with us in full force and remind one of the words of Saint Paul, "There are . . . so many kinds of voices in the world, and none of them is without signification." A little observation of these voices will cause one to realize that standards of literary criticism are matters of fashion like clothes and automobiles. A reader may elect to follow all or one of them, or he may merely use them as tentative guides in the development of his own individual tastes on a level which will give him both enjoyment and enlightenment. Most of the critics agree on fundamentals and their differences of judgment are to a large extent based on differences in temperament and personal taste. There are several good periodical book-review digests published today which will keep one in touch with new books and help to guide one's selection, and also numerous guides in book form to good literature of the past. Some of these are listed at the end of this chapter.

With a few well-chosen guides one needs to plunge into the wilderness of books and try for one's self what seems good and worth while. Jesse L. Bennett* has said regarding such efforts,

. . . the only true and enduring education is self-education. It must have two essential qualities—broad and well-rounded understanding and zest. Out of the chaos of books, the man who seeks to educate himself must find books which can give him one or both of these things. For no knowledge is valuable unless it is vigorous and dynamic and zestful. And no zest for life or knowledge or self-perfection can endure unless it is associated with broad understanding of the individual's real place in the world—of the planet on which he lives, of the past which produced him, of the present of which he is part, of the future which he will help to shape, and of the beauties and splendors which make life worth living.

Science, history, biography, literature, and philosophy all may play a part in this sort of self-education, opening new vistas here and there, rounding out or changing points of view, and even creating new philosophies of life for us eventually as we check our other life experiences against our reading. Prejudices and intolerance may need to be lessened before some subjects or authors can be attempted, but a wide sampling read thoughtfully is the best antidote for either poison. The "moral obligation to be intelligent" about the trends and tendencies of our own times, to keep our lives in touch with the main current of life, and to do our share, no matter how small, toward directing its course, cannot be evaded by the socialized person. With the rapid increase in leisure time available to everyone, there can seldom be an excuse for escaping this obligation which is, in reality, one of the rarest opportunities which life affords us.

Rogers in his book, *The Fine Art of Reading*, has emphasized this need for "pulling one's self up by one's own bootstraps" in developing and training a taste for good reading. He says:†

I have tried to show you that the Absolute is a mythical bird. All criticism is comparative and cumulative. The more you read the more material you will have to compare with the newest book which may be in question. The more you read the higher will be

* From *What Books Can Do for You*, by Jesse L. Bennett, copyright 1923, by Doubleday, Doran & Company, Inc., Garden City, New York.

† Reprinted by permission of the Stratford Company, Boston.

the tower from which, like a fire warden, you can watch for signs of new conflagrations in literature, distinguishing easily the thin chimney smoke from that denser and blacker smoke that presages a real fire. . . .

Literature is neither a pastime nor, as the jargon of today goes, an escape. Literature is meat and drink. It is full of calories and vitamins. It is a tonic and a stimulus. Even to the sick it is not an opiate, but oxygen, and blood transfusion, that precious life-blood of master spirits of which Milton speaks. More people have been restored to health by books than have been poisoned by them.

How shall one read for enjoyment and enlightenment? Here again we shall quote Rogers:

All mature art, good music, thoughtful painting, imaginative literature demands as much as it gives and will not give without response. . . .

Reading a book is like dropping chemicals into a test tube. It is dropping ideas into a brain. There should be a reaction, some kind of an explosion. No explosion, no brain. The book *may* be at fault, but ten to one it is the brain which is inert. Every book contains at least one point where an idea touches your personality and your life, is of immediate interest to you. It may be an idea, it may be an experience. There is the springboard for your dive into your own spirit. No book but contains a text which you can illustrate from your own interests and memories. A good book will contain dozens. You must jot them down as you come to them. Then, while the book is still fresh in your memory, play solitaire with your jottings. Out of them will emerge a main theme, a critical conception. The others will hang on that main theme like cooking pots on a crane. And presently you will be sure in your own mind what you think about that book and why you think it.

No rest for the weary, even in leisure-time reading! But at least we have the satisfaction of knowing that real rest for a healthy person comes from a change, not a cessation of activity, and real play is nothing but a form of self-imposed activity, rather than one which is required. And we still have the talking movie and the radio to protect passive periods of time which have come to seem a necessary luxury today. But let us not rob ourselves of some of the most priceless experiences in our lives by turning the enjoyment of active reading into the boredom of passivity.

But now a very practical question. *How may one have access to all of the books he wishes to read?* A personal library built

up over a lifetime with discriminating care is a source of satisfaction and also a great convenience. One's own books can be marked and annotated as they are read and thus they become records of one's own enjoyable and significant experiences. Acquaintanceship with favorites can be renewed frequently if in one's own possession. Also well-chosen reference books are convenient sources of information when needed.* Few people, however, could afford to buy all books they read, and many books would be of no value to the reader after one perusal. Hence public and other loaning libraries render a great service and enable one to sample books before determining which ones to purchase.

What should one know about libraries to make the best use of them?†

Libraries are the storehouses of mankind's richest treasures. They represent the acme of civilization today. A survey of their development, from the sun-baked bricks with their cuneiform writings of antiquity, through the beautiful hand-copied manuscripts of medieval times, down to the countless printed volumes housed in magnificent buildings in our own day, must inspire the thoughtful person with awe and reverence for the human values which they represent.

One must become familiar with the facilities of a library in order to utilize its resources as aids in reading and study. Following are a few suggestions:

Become familiar with the general layout or arrangement of the library. One should note the location of the card catalogue, the delivery or charging desk, reading rooms, the stacks, reference books and materials, indexes and guides, current magazines and newspapers, reserved books, and any special collections such as rare or unusual books, any departments for special fields of study, and general browsing corners, shelves of new books, etc. If the stacks are "closed," that is, not accessible except by special permission, some of the needed information may have to

* It may not be amiss in this general subject of reference books to suggest that care and discrimination should be exercised before purchasing reference books for a home library. A conference with a competent librarian is highly advisable before signing on the dotted line. Sometimes the sets of books which look attractive in an agent's prospectus sink into disrepute under the searching scrutiny of the experienced librarian.

† Prepared in collaboration with Winifred E. Skinner, Librarian, Pasadena Junior College.

be acquired indirectly by asking library authorities. A little initiative and ingenuity will enable one to become well informed about library facilities.

Inform yourself about library regulations. No two libraries have exactly the same regulations since these depend on so many conditions. It should be kept in mind that a library will have no unnecessary rules, since each rule complicates by so much the machinery of the library and increases the duties of the staff. Also rules are established to protect the rights of patrons as well as to protect books.

Learn how the members of the library staff can help you. The chief purpose of libraries in earlier times was the collection and preservation of books, and very little provision was made for their use. Today the emphasis is upon wide circulation and use of books, and librarians consider their chief duty to be that of assisting patrons to use the library facilities most effectively. In large libraries where there are several members on a library staff, each one generally specializes in a certain field of service, and one should learn to whom to go for assistance with different types of problems. A reference librarian, for example, will assist one in locating sources of information about special topics for which the use of the card catalogue is inadequate. In asking for assistance in finding material, it is essential that the questions be as definite and specific as possible. The person who asks the librarian for material on furniture, when he wishes information about furniture of a certain period, may finally secure what he desires, but he may have wasted time for himself and the librarian, and may have failed to exhaust the resources of the library on his problem.

Learn how the books are classified and arranged in the library. In old libraries books were often arranged according to size, color, or age, but with the vast accumulation of knowledge and books today, it is necessary to have a system of arrangement which will make it possible to locate a particular book quickly. The modern basis for grouping books is by subject. In the larger libraries the stacks where the books are housed are often closed to the public and deliveries of books are made through the circulation desk. However, if one has access to a library where the open stack system prevails, it is important to become familiar with the classification system which is used, in order to prevent loss of time in locating desired materials,

and also to insure adequate utilization of the library's facilities. The Dewey Decimal Classification system is likely to be used in most public libraries, in which case it would be helpful to the library user to borrow in the reference department a copy of *The Decimal Classification and Relative Index* and read the explanation of the Dewey Decimal Classification system. The description therein of the ten main classes into which the field of knowledge is divided, and of the expansion of these classes through divisions and subdivisions, should help to increase one's understanding of various possibilities for locating material. According to the Dewey Decimal Classification, all books, with the exception of fiction, are classified within one of the ten main classes designated by number symbols. With the use of decimals this system is capable of indefinite expansion and of minute discrimination between specific subject fields. The Library of Congress Classification, devised to meet the needs of the Library of Congress at Washington, is coming to be used more widely in some of the larger libraries. This system has twenty-six main groups, each designated by a letter of the alphabet followed by Arabic figures to denote subdivisions.

Call numbers. When a book is classified in a library according to the particular system used, it is given a "call number" which usually consists of two parts, on the first line the classification number or symbols, and on the second line the author number. This second designation usually begins with a capital letter which is the initial of the author's surname, followed by a combination of numbers and possibly letters which are assigned to the book, varying in different libraries. This second part of the call number distinguishes a book from all others in the classification to which it is assigned and determines its exact location on the shelves of the stacks.

Within each subdivision the arrangement of books on the shelves is generally alphabetical by authors, except for biography and criticism, in which the alphabetical arrangement is by names of persons about whom the books are written. Fiction is usually shelved alphabetically by author, and each author's books are arranged alphabetically by title. If the stacks are "open" or accessible to you, a little observation will soon enable you to find your way about without loss of time or effort. There are often modifications of any general system adapting it to special needs or conditions. These should be noted to avoid

needless searching. If books must be secured from the charging or loan desk, it is essential to have the complete call number on the slip requesting the book.

Learn how to use the card catalogue. When one goes to a library for a book there is one of three questions to be answered: Does the library have a book by a certain author? Is there a book in the library of a given title? What material does the library have on a certain subject? These questions are answered by the catalogue, which does for a library what an index does for a book. It is an alphabetical listing on cards of the books and other materials in the library.

Most books have at least three cards in the catalogue placed alphabetically according to the heading, so that they can be located in several different ways. The call number is the same on each card and is placed in the upper left-hand corner of each card. The following are the different types of cards which may appear in the catalogue.

Author card: The author card has for a heading the name of the author and is filed under his surname.*

Title card: The title card has the title of the book as a heading, and is filed under the title's first word (not an article).

Subject card: The subject card has for a heading (generally typed in red), a word or phrase which indicates what the book is about. These subject cards are aids in locating a book for which the author's name and the exact title of the book are not known, or to determine what books in a particular subject field are in the library.

Cross-reference card: This type of card is used when a book might be looked for under two or more subject headings, or where an author uses a pseudonym instead of his real name. It refers one to other cards in the catalogue.

Analytic cards: An analytic card is a separate entry, under author, subject, or title for a portion of a book. These are often used for plays when there are several in one volume, for biographies where there are several in the same book, or for a section of a book dealing with a specific subject.

The three types of cards most frequently used are author, title, and subject cards, but the other types often prove very

* For interpretation of information given on a catalogue card see Zaidee Brown, *The Library Key: An Aid in Using Books and Libraries*, H. W. Wilson Company, New York.

helpful in locating obscure material or books which might otherwise be overlooked.

In using a catalogue one should know that cards for books by an author are placed in front of cards for books about him; associations and governments have author cards for works published under their names; there are also cards for joint authors, editors, compilers, and translators of books; important series generally have cards listing all the books in the series which the library possesses. Subject cards for biography and criticism have as the subject heading the name of the person written about; magazines and periodicals have title cards which indicate the numbers which the library possesses and any gaps in the files; periodicals which relate to specific fields also have subject cards.

When one is first learning to use a particular catalogue, it is desirable to ask for the assistance of a librarian and through this aid to become familiar with filing rules and local variations in practice. Any catalogue is in a state of flux and is fairly certain to have some inconsistencies and limitations due to revisions. The wise library user will note these discrepancies and thus avoid being handicapped by them.

Learn how to use special indexes and guides. "Somewhere in print" is one principle of library usage which should always be kept in mind. No matter what your interest, no matter what information you seek, there is something in print somewhere in the world which pertains to that subject or interest. It may not be in your library, but your librarian will be glad to suggest or help you to trace the location of desired materials.

Special indexes and guides offer one means of locating certain types of material, and one should learn to use some of these. There are the *periodical indexes* which guide the reader to material in back numbers of periodicals. In addition to the more general indexes there are a number of special magazine indexes for technical or other specific fields.* There are also *newspaper indexes*, indexes and guides to books, and indexes for locating various types of material in books, some of which often prove helpful. Title pages, introductions, and tables of contents of such indexes should be scanned to grasp the limita-

* The H. W. Wilson Company publishes a pamphlet, *Cataloguing and Indexing Service*, which explains each index published by that company.

tions and scheme of organization in order to use these quickly and thoroughly.

Learn how to use reference books. There is one rich source of information which is so obvious it is sometimes overlooked, and that is the reference collection. The general nature of such books often precludes the possibility of catalogue assistance and, unless the librarian is consulted, the collection may be forgotten. Reference books, as a rule, do not contain enlivening material; they are too factual, too compressed; they frequently contain many unrelated or very loosely related subjects. Most of them are not meant for continuous reading. Their value lies in the opportunity for the searcher to find concise facts in a condensed treatment in which imagination or creative writing has no part. Unless one is very familiar with the reference collection in a library, it is desirable in order to avoid fruitless searching to consult a librarian about the most helpful reference books to use for various purposes.

The speedy and effective use of reference books requires a technique which can be attained and becomes almost automatic with thoughtful, well-directed practice. A few hints to be applied with discretion to the particular reference work at hand will call to the attention of the thoughtful person certain principles to be observed in using reference books in general.

Determine the dependability of the materials. "Facts," so-called, are of no value unless they are accurate; and statistics which are outdated are most deceptive, for figures may be great liars. So, first of all, the sources of information and the dates of a reference work should be ascertained. Have the authors or the editors sufficient scholarship to justify their attempt to write or compile the work? Look up their records and backgrounds to judge this if necessary. Is the copyright date recent enough to warrant dependence on the desired information? Is there a revision, or a supplementary volume, or a yearbook to bring the work down to date? Scan the introduction or preface, or both, for indications of any bias in those responsible for the work, particularly if it happens to deal with a partisan or controversial subject such as politics or religion.

The publisher sometimes has a bearing on the reliability or authenticity of a reference book—some publishers specialize in certain types of books and are therefore likely to be more desirable than others. It is well for the reader to form the habit

of noting the publisher of each book which he reads; for a while this knowledge will mean nothing; after a time, however, the names of certain publishers will become known as reputable and reliable publishers of books in certain fields.

Note the scope and arrangement of materials. The ability to recognize and grasp these points comes with experience. Arrangement may be alphabetical under minute headings with a system of cross references, or the material may be grouped under comprehensive headings with an index necessary for detailed subjects. A careful reading of the title page and the introductory statements usually gives not only an understanding of the scope and limitations of the work but also the scheme of arrangement and use.

A serviceable note-taking system is a great help in systematizing one's knowledge and making it a more permanent possession.

Good note-taking is an active mental process, not just a passive recording of what is read. It is *an aid to memory, clear thinking, and an active attitude*. We have noted earlier that we forget a large percentage of what we read or hear at any time in the first few succeeding hours, and progressively, but at a slower rate, from then on. Note-taking is valuable as a means of retaining important facts or data in a convenient form to review or use later. Reviewing the notes will help through repetition to fix the material in mind, and the use of the visual and tactual senses in taking the notes will also help to strengthen first impressions.

The correct attitude for note taking as for all types of effective study is not that of passively absorbing information, but of reacting analytically and critically to every idea encountered in the process. What is the author saying? Which are the important points and which the subsidiary? What is the authority for this statement? Do I agree with the author if he is expressing an opinion or deducing conclusions from assembled data? Does this tie up in any way with my experience? What are my reactions to this problem? Such questions keep the mind actively working on the topic, analyzing and weighing its components, associating it with many other experiences, and building it into the fabric of one's mental life. What goes into notes should be the resultant of this continuous mental activity. Notes are then records of experience and growth and a means to further growth.

What are the significant features of good notes?

They are usually brief, but always intelligible. To take brief condensed notes, it is necessary to determine exactly what is said or written and then restate the important ideas more tersely in one's own words. This is a skill which is acquired only with much practice.

They should be accurate. An inaccurate or ambiguous restatement of an author's words is worse than none at all. Accuracy in notes depends on accuracy of impression and clear thinking in rewording the ideas. A summary or paraphrase may, if not carefully worded, carry a very different meaning from the original statement.

They should be well organized and so arranged as to be quickly and easily visualized. Mechanical arrangement of the notes on the page takes care of the visualization, but a successful arrangement depends upon clear comprehension of major and minor points in the materials. A skeletal outline, with main topics and subtopics clearly designated, is usually desirable. Indentation and a uniform labeling system are the chief mechanical aids.

Specific topics or material should be easily located. One often wishes to refer to a previous topic when studying a later one, and it is important for time saving that each be located easily. Two features allow for this: placing the notes for only one topic or unit on a page, and placing the title or heading for the unit in a conspicuous place on the page.

The title or heading of a unit may be centered at the top of the page below a sizable margin or placed, say in the upper right-hand corner, to facilitate its location when thumbing over the pages. The full title could be placed in the center of the first page as a heading for the notes and an abbreviated title in the upper corner of each page, if more than one, to prevent disarrangement as well as to facilitate location. For notes on a reading reference the author, title, date of publication, and chapter or page references should be given.

Notes should be flexible or adaptable to varied uses. One problem or topic is very sure to have bearings on others. A loose-leaf or card system of notes makes it possible to rearrange them in any desired order, bringing together those that relate to any particular problem. After the notes have been used thus, they can be replaced in the original order or eventually filed according to

some general system of classification which one develops as study progresses in varied fields.

They should allow for registering one's own reactions and growth. Personal reactions to material studied are among the best indexes of real growth. If not recorded they may be lost. Also they need to be nurtured and encouraged like any other mental process. Recording them in the notes as they occur helps to stimulate interest and thinking, preserves them for further study, and builds up a significant record of real progress. It is desirable to distinguish in some way between one's own reactions and the material summarized. Marginal notations or enclosure within brackets are two common methods of setting off one's own ideas.

What are the different forms of notes?

Outlines may be of three different types: *topic outlines* with words or phrases for headings and with symbols and indentations to indicate relationships; *sentence outlines*, which use complete sentences for headings; and *annotated outlines*, which may be used with either topic or sentence headings and which include synopses, or essential data, under the headings in the outline. For most purposes this last form is probably the most useful of the three.

Summaries or abstracts may be brief, containing only the most essential ideas, or fairly long, including important details as well. They are arranged in paragraph form and are condensed restatements of the main points.

Exact quotations are advocated by some scholars for notes on reading. They have the advantage of preventing the garbling of the author's ideas, and may be used effectively in writing where exact quotations are desired. Unless key sentences are chosen carefully, however, the notes become too bulky and burdensome. The effectiveness of this method varies with the style of writing of different authors. It may become a substitute for critical thinking on the part of the reader if not carefully used. The use of this form should probably be limited by most learners to unusually terse statements and to literary quotations which have an esthetic value.

Bibliographical notes should usually include author, title, form (book, monograph, article, etc.), publisher, place and date of publication, number of pages, a brief summary of the

scope of the work, conditions under which it was produced, and critical estimates by others and self. When a bibliography is being developed for a specific problem, page or chapter references to relevant material and evaluation of its contributions to the particular problem should also be included. Library call numbers are a great convenience when the notes are used. Cards are usually more serviceable than note paper for bibliographical notes, as they can be handled and sorted more easily.

Certain mechanical aspects of a note-taking system should be standardized. The same size of notepaper or cards should be used for all notes of a similar nature in order to facilitate filing which is essential for a growing serviceable system. If paper is used, either the letter or legal size is desirable, depending on the size of the files to be used. Cards are generally 3 by 5, 4 by 6, or 5 by 8 inches in size. The last two sizes are usually best for notes as they allow more adequate space. Some recommend 3 by 5 cards for bibliographical notes.

Some devices should be provided for keeping notes arranged in order. Paste-board boxes of a size to fit cards used are helpful, and index division cards can be used for grouping the cards by subjects and by topics within a subject. Manila folders for letter- or legal-size paper are very convenient for labeling and filing away notes and papers. If one cannot afford regular filing cases, the materials thus organized can be stacked in boxes or drawers and will form an excellent nucleus for a more extensive filing system if desired or possible later.

If a system of filing is developed, it is important to keep it up to date. If a particular classification, important at some time, loses its usefulness, it should be discarded and the material, if desirable to keep, reclassified and placed elsewhere. New topics or classifications when needed should be added, but fitted into the logical scheme of organization.

A systematic plan for reading and study is an important feature of a self-development program, provided it does not interfere with the joys of impulsive leisure-time reading. The approach to this planning should be through an understanding of the possible values inherent in study in any field. The realization of these values is contingent to a certain extent upon the individual, varying somewhat with his background, his special aptitudes, and his life purposes. Following are suggested values to be sought for in one's reading:

Contributions to an understanding of the world in which we live. The physical sciences and mathematics are perhaps the largest contributors to the understanding of the physical environment, and the various social sciences and philosophy to our social environment.

Contributions to an understanding of human life. Biological sciences and psychology are the largest contributors here, together with history, economics, political science, and sociology as they portray human beings in their relationships with one another and reveal tendencies in regard to these relationships.

Contributions to self-knowledge. All the understanding we can gain about the world in which we live and about other human beings will help, when we turn the spotlight on ourselves, toward an understanding of our own natures, the interpretation of our motives and desires, and our orientation in the world. A glimpse of the vast sweep of the human drama as it has been played down through the centuries, and a grasp ever so slight of the concepts of space and time which science is revealing to us, must give us some added perspective and poise; the rapidly increasing store of knowledge about both animal and human behavior which psychologists are accumulating holds tremendous possibilities for self-knowledge and self-mastery.

Contributions to health, both mental and physical. Physiology and physical and mental hygiene contribute directly to health values. Any field of study which increases one's perspective on life may add to one's poise and balance, and the application of comprehensive knowledge about many aspects of life in the development of a wholesome regimen of living should contribute to health.

Contributions to technical or vocational skill and orientation. The refinement and training of the senses and improvement in the ability to think clearly and soundly are probably among the most significant and lasting values to be derived from study. These values are inherent in any field worthy of study. Skills important for vocational activities may be of the more general sort mentioned above or more specific ones directly related to one's work. Orientation in many fields is an aid in vocational orientation, though some fields will, of course, be of more value than others to a particular individual, depending on his vocational leanings.

Contributions to avocational pursuits. Almost every field of study affords opportunity for the development of interests, skills, and appreciations which may serve as a means for attaining many of life's most satisfying experiences. There is probably no field which would not offer some possibilities for interesting and worth-while hobbies.

Contributions to the building of a life philosophy and the development of esthetic and ethical standards. A life philosophy serves as a touchstone or criterion for living. Without one much of our living is meaningless and unintelligent. A working philosophy should be as comprehensive as our experiences and should grow and change to include interpretations of new experiences as they occur. There is no real experience which does not in some way make its contributions to our life philosophies.

Appreciations are often by-products, rather than goals consciously striven for, yet they constitute some of the most important values in life and should not be left to chance. Standards of beauty in the fine arts; appreciation of form, style, and worth in literature; perspective; social attitudes; ethical standards developed through study in the various humanistic fields; and appreciation of the value and elusiveness of truth gained through scientific studies—all these and many more mark the truly educated person. We know much less about how these are achieved than about the acquisition of skills, but experience would suggest that the striver and seeker after these values is the finder.

Contributions to self-development and more effective living. Life as we experience it from day to day is not divided into compartments such as we meet in fields of study. These divisions are important for research, but for actual living we need to appropriate information from various fields and learn to organize or integrate it in thinking about our human problems. Unless this process is carried on continuously much of the value of reading and study is lost, since information not assimilated and used is soon forgotten. Reading and study should serve as directive points rather than as terminals and should strengthen the foundations for a lifetime of well-directed observation and thinking to serve as a basis for effective living.

Here are some suggested guides which may assist you in the planning of your reading.

SUGGESTED GUIDES FOR PERSONAL READING*

BECKER, MAY: *Adventures in Reading*, New York, Frederick A. Stokes Company, 1927, 248 pp.

While this work was prepared for young people of high-school age, it will be found most stimulating and suggestive to those who need guidance. The lists of books at each chapter end are not juvenile and are well selected for those whose reading has been somewhat limited.

BECKER, MAY: *Books as Windows*, New York, Frederick A. Stokes Company, 1929, 289 pp.

The contagion of her enthusiasm for good reading must be caught by anyone who is the least susceptible. The author is known as the "Readers' Guide" to those who read the *Saturday Review of Literature*.

BENNETT, ARNOLD: *Literary Taste; How to Form It*, with Detailed Instructions for Collecting a Complete Library of English Literature, Garden City, Doubleday, Doran & Company, Inc., 1909, 127 pp.

Practical advice on reading and selecting one's personal library.

Books to Read: a Classified and Annotated Catalogue, being a guide for young readers, compiled by a committee representing the Library Association; the National Association of Boys' Clubs; the National Council of Girls' Clubs; and the Carnegie United Kingdom Trust. Published (with the assistance of the Carnegie United Kingdom Trust) by the Library Association, London, 1931, 574 pp.

An English publication for English young people. Valuable as a guide to reading from English literature, although a few American authors are included.

BREBNER, JOHN BARTLET: *Classics of the Western World*, edited by J. B. Brebner and the honors faculty of Columbia College with forewords by John Erskine and Everett Dean Martin, Chicago, American Library Association, 1927, 123 pp.

Advanced reading list for the individual who has already a good literary background; not for one who "doesn't like to read."

ENGLISH, THOMAS H., and WILLARD B. POPE: *What to Read*, New York, F. S. Crofts & Company, 1929, 173 pp.

"List of approximately five hundred books from the literature of the world . . . , books of high literary merit and equally high contemporary interest" (Preface). Notes under each entry give hints as to the author's characteristics and plan. Exceedingly suggestive.

GRAHAM, BESSIE: *Bookman's Manual; A Guide to Literature*, rev. ed., New York, R. R. Bowker, 1929, 635 pp.

While the book was developed originally from a series of lessons on book salesmanship, the book may be most useful as a subject reading guide and may be particularly valuable to those acquiring personal libraries, since the information on editions, popular reprints, etc., is carefully listed.

JONES, LLEWELLYN: *How to Read Books*, New York, W. W. Norton & Company, Inc., 1930, 229 pp.

* Prepared by Winifred E. Skinner, Librarian, Pasadena Junior College.

"Its aim is to help the reader to enjoy them—not to improve his mind or to urge him to change or purify his tastes" (Preface).

KOCH, THEODORE WESLEY: *Reading: a Vice or a Virtue?* Dayton, University of Dayton Press, 1929, 119 pp.

Besides the title essay, the volume contains "The Essence of Poetry," by Sir Percival Rodd, and "Standards of Value in Fiction," by Franklyn Bliss Snyder, the three being essays on cultural reading delivered before college audiences.

MOTT, FRANK LUTHER: *Rewards of Reading*, New York, Henry Holt & Company, 1926, 208 pp.

Helpful to those who do not know how to choose books for enjoyment; and an aid in making reading personal. Reading lists at the end of each chapter.

PEARL, RAYMOND: *To Begin With*; Being Prophylaxis against Pedantry, New York, Alfred A. Knopf, 1927, 96 pp.

Designed for students in the biological sciences, but anyone interested in science will find the delicious humor of the author's introduction enticing him to become acquainted with some great basic books.

PRITCHARD, FRANCIS HENRY: *Training in Literary Appreciation*; An Introduction to Criticism, New York, Thomas Y. Crowell Company, 1924, 237 pp.

To stimulate enjoyment and discrimination in literature for the person who is ambitious to study to that end by himself. Exercises and reading suggestions appended to each chapter convert the book into a text for individual use.

Reading with a Purpose Series, Chicago, American Library Association.

The series consist of several volumes, each written by an expert in the field on a great variety of subjects such as biology, music, sociology, drama, mental hygiene, etc. The series is designed to help the independent readers choose the best books on the subjects covered. Excellent guides.

SHIPLEY, JOSEPH T.: *Quest for Literature*; a Survey of Literary Criticism and the Theories of the Literary Forms, New York, Richard R. Smith, 1931, 540 pp.

The book is not too difficult for the average reader interested in the development of critical thought. The appended bibliography is varied in content and suggests a wide range of reading in the field of criticism.

Periodical guides to current literature:

New York Herald Tribune Books.

New York Times Book Review.

Saturday Review of Literature.

Chapter Twenty-One

THE AIRPLANE VIEW

DEVELOPING A LIFE PHILOSOPHY

If we would attempt to fit all the varied aspects of life experience into a meaningful picture, we must secure an aerial perspective. Only as we soar into the clarified atmosphere of contemplation, away from the pressing influence of immediate desires and emotional experiences, can we see the different phases of life in their true proportions. And only as we grasp this total sweep of the picture can we develop a realistic life philosophy and standards of value against which to check the varied opportunities in life.

A life of rich and varied experiences, which we need for fullest self-development, never comes wrapped up in a package with the bad or undesirable eliminated. We must do the sorting and choosing ourselves, and, if we do not purposefully direct the process, our minds may play tricks upon us which we may not enjoy.

A fundamental thesis throughout our study of life-building is that human beings may through increased knowledge of self and of the processes of human development become increasingly masters of their fate. Belief as to the extent to which this mastery may be achieved depends upon one's belief as to the nature of the forces or factors which determine life. A completely fatalistic concept of the individual as a sort of puppet drawn hither and yon by forces beyond his control would allow of no self-directive inner control. Certainly every intelligent person experiences what at least appears to be personal choice of action in an increasingly enlarged sphere as he grows into mature life.

One philosopher may hypothesize supernatural forces beyond our human ken as the directive agencies in life, a viewpoint which would leave life unpredictable and uncontrollable by human beings. Another may adhere to a mechanistic theory

of the interaction of chemical agents, which, with complete knowledge, would enable human beings to predict events with accuracy and control their occurrence. Neither of these viewpoints would seem to fit completely into the picture of life which experience reveals to most of us. Life is still an enigma as is electricity, but, as with the latter, experience and scientific study have shown us much about how it works; such knowledge about human life rightly applied will help to set the human personality free to work out its destiny on higher and higher levels of existence.

Each new stage in human growth may be a unique and somewhat unpredictable emergence, but the potential ability of the human intellect to foresee and judge and choose, and of the human spirit to envision goals and ideals, would seem to have been implanted in barren soil if they be not used as truly creative forces in life. The human spirit is constantly striving to adjust external conditions to its internal needs and promptings. How far either this control of external conditions or the redirection of internal trends may be carried, only the future can tell. The very uncertainty should increase our zest and enthusiasm for life.

A growing philosophy as to the meaning of life is a unifying or integrating force in the personality giving it stability as well as power of continuous growth. Such a philosophy should serve as a touchstone or criterion for evaluating the multitudinous, conflicting, and confusing elements in one's experiences.

There are numerous ways of acquiring a life philosophy. One may study all of the schools and varieties of philosophy which have been developed in the past, choose the one which possesses the greatest personal appeal, or combine appealing aspects of any or all of them into an eclectic philosophy. Neither method is likely to give one a permanently satisfying philosophy, however, as one's outlook on life usually changes considerably though perhaps imperceptibly over a period of years. If one can extract what seem to be basic truths from each school of thought and then check these gradually against further experience and study, always being ready to accept new truths, a more serviceable philosophy may emerge.

Hocking in his *Types of Philosophy* points out that not many of the great thinkers are perfectly typical. "Such men," he says, "take truth where they see it, and as they see it, whether

or not their grasp of it achieves perfect coherence; believing that truth is consistent with itself, and that the discovery of its manner of hanging together may wait. Meanwhile they defy our classification; and we think of them as too great to be contained in an 'ism.'"^{*} A patchwork-quilt sort of philosophy is confusing and oftentimes unpleasing, but it is not so dangerous or so painful as the mold of a too-well-organized system which admits of no further additions or changes. The latter may pinch like a tight shoe as the personality tries to expand and may have to be broken and discarded to permit growth.

All aspects of experience contribute to a well-rounded view of life, and the truly educated person is one who, through continuous, thoughtful evaluation of all his experiences, has built the foundations of a growing life philosophy out of the truths which he has quarried.

What are the types of values† which should be included in a life philosophy?

Truth values and how they function. What truth is and what one can believe are age-old questions that still concern every thoughtful person; also, how one can discover truths and use them in his thinking about life. Some of the methods that have been used in answering these questions are observations and interpretations of the processes in nature, inductive or deductive thinking, experiencing and experimenting, analysis and synthesis, dependence upon intuition, and the mystical gaining of direct visions of reality. The different schools of philosophy exemplify the application of one or more of these methods. The most widely prevailing modern method of discovering truth is the scientific method, which, however, has not as yet developed techniques or at least applied them successfully in some fields of human experience dealt with in philosophy. This method has, however, opened up a vista almost overpowering to human comprehension in its scope and complexity of marvel and beauty in the universe, and its application has revolutionized our material existence. This method of truth finding and thinking has been emphasized as a fundamental approach to our study of self and life problems.

^{*} Reprinted by permission of Charles Scribner's Sons, New York.

[†] The term "values," as here used, connotes personal judgments of truth, worth, or excellence, and personal attitudes and appreciations. No attempt has been made to conform to any philosophical theory of values.

Moral values. These values have to do with problems of human conduct and human relationships. One important question for every person is whether his behavior is determined largely by outer imposed controls or by inner controls, and if by inner controls to what extent determined by fear, self-interest, desire for approval, altruism, or ideal standards of right and wrong and good and bad. Growth from infancy to true adulthood represents a gradual shift from one to the next control in about the order in which they are named above, and one check of moral adulthood would be to determine in what aspects of one's life these different controls of behavior operate.

Ideal standards of right and wrong, and good and bad, may, of course, be either accepted from without or developed from within. If accepted unthinkingly from without, such standards may represent but little advance beyond childish controls, except in the mere ability to grasp more abstract meanings. If an individual attempts to develop these standards through the evaluation of his life experiences and his interpretations of the meaning and value of life, he confronts one of the most stupendous problems that life can offer him, yet one which affords the greatest opportunity for growth.

Many thinkers have held that the welfare of society and of the individual are so inextricably interwoven that the good of one is in reality the good of the other. Cooley, whose concept of the looking-glass self was considered earlier, states that society and the individual are merely different aspects of the same thing. Society exists in the relationships of individuals, and these individuals are the product of society and could not exist outside of it. According to this viewpoint there could be no real inharmony between the welfare of society and the individual, and the right or good in life for the individual would always be determined on the basis of what is socially right or good. Others have held that the greatest good of the greatest number should be the criterion for determining what is right, assuming that the highest good for some individuals must be sacrificed to the greatest good for all.

To what extent should the past experience of the race and prevailing standards and conventions which have grown out of this experience determine ethical standards for the individual? Many who have struck out beyond the charted paths have been persecuted in their lifetimes, but have become mar-

tyrs who have ultimately led humanity forward to new and better goals. Others have merely wrecked their own lives or have retarded the progress of the group. The individual who tries sincerely to think for himself with respect to right and wrong, or good and bad, and develop his own standards to use in living is tackling the most difficult problem in life, one which involves possibilities for his greatest good and happiness or for serious mistakes and unhappiness.

A group of young people who were asked a few years ago to formulate a list of life objectives which in their judgment were so important that they should never be lost sight of during one's lifetime finally agreed upon two: maximum personal development and maximum contribution to society. The person who makes these two comprehensive objectives his goals in life will have valuable guides on life's journey.

Beauty values—esthetics. Beauty resides not only in nature and external appearances, including the creative arts, such as writing, music, painting, sculpture, architecture, and the numerous so-called applied arts, but in all forms of life and modes of living, and perhaps is manifested in its highest forms of which man is aware in the human personality. Appreciation of beauty in all its forms is one of the deepest and most lasting of all life's satisfactions and one which is least subject to the vicissitudes of life. It is not easily lost like money or material possessions and is not dependent upon them. Without it the material satisfactions in life mean but little.

In developing standards of beauty, one may use the same methods as in developing a life philosophy. One may accept some ready-made or construct one's own out of one's personal study, observation, and experience. Esthetic appreciations form so vital and intimate a part of the whole emotional life of the individual that individuality would require that he develop his own standards of judgment, though these should desirably be based upon an understanding of what others have adjudged beautiful. Like everything else worth while, these appreciations must be fostered and nourished if kept alive. Many a beauty enthusiast in youth has become an uninspired Babbitt when surrounded and assailed by the responsibilities, energy-draining problems, and shimmering ambitions of adult life.

Ideal values—religion. Some philosophers have held that man is essentially religious by nature and that the numerous

religions in the world are expressions of this religious urge. Men in all ages have reached out beyond their material and sensual existence to find truth, beauty, and power. Reverence toward, worship of, and supplication to some unseen power are inherent in all religions. Some individuals are able to gain a personal sense of this power, or God, while others doubt or deny its existence. Despite variations in personal experience, religion has been one of the strongest motivating forces throughout human history and one of the greatest transforming influences in human lives. It has also been a source of conflict, warfare, and human suffering. This last effect has invariably been due to creeds or dogmas which have become established as bases of belief and conduct within particular groups.

Comparative studies of the various world religions have revealed many common features which might be thought of as basic religious truths because of their widespread occurrence. The differences in creeds, dogmas, and systems of ethics which have developed around each religion can be accounted for in large part by economic or social order or stage of development of the people among whom they grew up. This understanding of the sources of variation in creeds has led to the development of almost world-wide tolerance of differences in religious faith, so that a religious war would probably be an impossibility today.

Many individuals, however, pass through periods of severe inner conflict because of apparent clashes between a religious faith acquired early in life and later studies or experiences. Solving such problems of conflict might well start with recognition of the fact that in our thinking we have passed out of the period of authoritarianism where any beliefs can be forcibly imposed by authorities outside of ourselves. Tested truth is the keynote of our modern thinking and this point of view throws the door wide open for questioning, testing, and personal acceptance or non-acceptance of ideas and beliefs without the hampering fear of eternal damnation following upon an erroneous conviction. Many ardent scientists, it is true, would have us loathe the acceptance of an unproven truth as much as the older theologians would have us fear hell-fire as the result of an unorthodox belief, but the fear of nonconformity to authority in the matter of religious beliefs is rapidly passing out of the modern mind. Of course, convictions and beliefs established in childhood

often seem to partake of the nature of self-evident truth, and it is the conflict between these attitudes, and standards of conduct associated with them, and later experiences and attitudes that oftentimes causes such profound emotional disturbance.

Increased individual freedom of thinking and acting carries with it increased personal responsibility for conduct and the need for clearer thinking and more firmly established inner controls of conduct than formerly. The vastly increased complexity of modern life, coupled with the weakening of many external controls of conduct, produces problems of life adjustment which prove too severe for many to meet effectively. Few people get very far along in adult life without encountering situations which seem unsolvable or overpowering to their finite minds. Such circumstances are often the starting point for an out-reaching search for light or power beyond finite limitations, which results in the development of religious faith and conviction.

Many modern scientists pin their faith to scientific truths as multitudes throughout the history of the world have clung to a religious faith as their guiding star. Many outstanding scientists profess a faith in God and find no essential conflict between science and true religion. A recent comparison by James H. Leuba of the beliefs of American scientists in 1914 and 1933 with respect to a "God to whom one may pray in the expectation of receiving an answer" indicated a marked decrease during that period in the number professing such belief. However, this study afforded no opportunity for these scientists to express any ideas they might have regarding a Divine Power other than the traditional God of the religions.

Will Durant in recent years sent a letter to numerous eminent people throughout the world in which he said:*

"Spare me a moment to tell me what meaning life has for you, what keeps you going, what help, if any, religion gives you, what are the sources of your inspiration and your energy, what is the goal or motive force of your toil, where you find your happiness, where in the last resort your treasure lies."

With respect to religion the replies varied all the way from admission that the writer was quite devoid of it and had no desire for immortality, to the assertion that without religion

* Durant, Will, *On the Meaning of Life*, 1932, by permission of Ray Long and Richard R. Smith, Inc., New York.

as the chief motivating force in life the writer could not "go on." The reply of John Erskine quoted below represents perhaps a middle ground between these two extremes:

It seems to be that the human race has been given to two bad mistakes in its thinking. One is to forget that our spiritual life is just as natural as our physical. Whether or not the philosophers care to admit that we have a soul, it seems obvious that we are equipped with something or other which generates dreams and ideals, and which sets up values. My own disposition is to accept in its entirety this human nature which we are born to, without splitting too many hairs as to whether that nature is dual or single. It is natural to me, and I assume for others as well, to imagine ultimate ends and to worship those ends as our God. It does not disturb me that man's conception of God varies greatly at different times and in different places. Apparently that variation is a condition of our nature in this world.

To think of life in these terms is, I suppose, to define religion as an art, as something which man will surely put forth out of himself whether it emerges as Mohammedanism or Catholicism or as the present Communism of Russia. If some of us are offended by the description of religion as an art, it is probably because they do not attach the importance which I do to art. I should like to use the word to cover all the ideal-making and ideal-expressing functions of our nature. . . .

If it is a mistake not to recognize that our spiritual life is as natural as our physical, it is another and probably a more common error to confuse our spiritual ideals with the actual facts of existence. If we were willing to follow our ideals as ideals—as ends which we hope to achieve—we could then perhaps be gentle with our fellow man who has other purposes. But an intense faith, if one can judge from history, often makes us stupidly literal. . . .

To say that life is an art would imply to some people that the description of human nature here given makes too little of the moral sense. I believe that the sanctions of morality are implicit in the human instinct to make of life a work of art. Though we sometimes speak of a primrose path, we all know that a bad life is just as difficult, just as full of obstacles and hardships, as a good one. We are told that the way is strait which leads to salvation; we are also told that the way of the transgressor is hard. The only choice is in the kind of life one would care to spend one's efforts on. I believe the divine element in man is whatever it is which makes us wish to lead a life worth remembering, harmless to others, helpful to them, and increasing our own store of wisdom and peace.

Values pertaining to the understanding and appreciation of reality.

National hatreds of whole generations, and pigmy spites of the village spire;

What is it all but a trouble of ants in the gleam of a million million of suns?

This question of Tennyson's suggests the value to the individual of concepts of time and space and of cosmic and human development, which will afford a somewhat adequate perspective with regard to life. The pictures presented by modern science are almost beyond the power of one mind to perceive and interpret, but the efforts to do so must leave one a different person than before. Concepts of the time through which human life and human institutions have been developing reveal the futility of many judgments and theories based on the relatively infinitesimal period of recorded history. A teacher cited to me recently as proof positive that human nature is unchanging the expressions of that nature in the recorded literature of several centuries from which she drew her material for teaching. What about the millions of years before human nature was recorded in literature?

The distance in light years between our planet and the farthest known star can only be conceived of mathematically and in the imagination, but the process of trying to do so may remove the cobwebs from some of our mental windows. The scientific hypotheses regarding atomic structure would suggest profound questions as to the relative nature of mind and matter, which have so often been thought of in some philosophical systems in contradistinction to each other. Scientific information is accumulating more rapidly than it can be organized, interpreted, and applied. But the effort to understand and appreciate reality in its varied aspects will keep any human mind open for further growth. John Haynes Holmes's reply to Will Durant's* questions reveals an appreciation of the effect of such efforts.

It is this that keeps me going—the knowledge, vouchsafed in passing moments when we are lifted beyond and above ourselves, that we are an essential part of a creative process—that we ourselves,

* Durant, Will, *On the Meaning of Life*, 1932, by permission of Ray Long and Richard R. Smith, Inc., New York.

with God, are creators, and thus makers of some great cosmic future. What if I cannot see that future, or even imagine it! Such ignorance, frankly confessed, fades like darkness before light in the actual sense-experience of having lived to "vaster issues."

We have come to the end of this journey together. What now? Greater adventures, greater joys, let us hope, as we proceed on our journeys through life. May we go forward as members of a courageous band of life-builders and life-travelers, inspired by new opportunities, undaunted by hardships, and with music in our hearts. What shall that music be? We compose our life symphonies as we direct their rendering in our lives. Our skill and artistry in conducting the orchestra of varied selves within our personalities and our interpretations of the score will determine the dissonance or harmony of the music. May our symphonies be written in the major keys of life, and may the themes in minor keys serve only to enhance the happier themes.

Appendix

Table III

COMPARISON OF 1920 AND 1930 FIGURES ON OCCUPATIONS IN
THE UNITED STATES*

I means that the number of people in the occupation has *increased greatly* from 1920 to 1930.

i indicates a definite but smaller relative *increase*.

d indicates a relative *decrease*.

D indicates *great decrease*, relative to other occupations.

Occupation	Male		Female	
	1930	Percent- age of 1920	1930	Percent- age of 1920
All occupations.....	38,077,804	115	10,752,116	127
Agriculture:				
Farmers (owners and tenants)....	5,749,367	94 <i>d</i>	262,645	99 <i>d</i>
Farm laborers.....	3,746,433	111	646,331	80 <i>D</i>
Forestry and fishing:				
Fishermen and oystermen.....	73,071	140		
Foresters, forest rangers.....	8,042	222 <i>I</i>		
Lumbermen, raftsmen, and wood- choppers.....	162,138	79 <i>d</i>		
Extraction of minerals:				
Coal-mine operatives.....	621,545	85 <i>d</i>		
Iron-mine operatives.....	24,245	62 <i>D</i>		
Oil- and gas-well operatives.....	105,212	123		
Manufacturing and mechanical in- dustries:				
Bakers.....	131,884	141 <i>i</i>	8,916	194 <i>I</i>
Blacksmiths, forgemen, hammer- men.....	147,460	67 <i>D</i>		
Brick and stone masons and tile layers.....	170,896	130		
Carpenters.....	959,376	105		
Composers, linotypers, and type- setters.....	173,363	135 <i>i</i>	10,269	91 <i>d</i>

* By permission of the Personnel Service Bulletin of the Personnel Research Federation.

Table III (Continued)

COMPARISON OF 1920 AND 1930 FIGURES ON OCCUPATIONS IN
THE UNITED STATES*

Occupation	Male		Female	
	1930	Percent- age of 1920	1930	Percent- age of 1920
Dressmakers and seamstresses (not in factory).....	425	134 <i>i</i>	157,928	67 <i>D</i>
Electricians.....	280,279	132 <i>i</i>		
Engineers (stationary).....	316,942	113		
Machinists, millwrights, and tool makers.....	761,075	85 <i>d</i>		
Mechanics (not otherwise speci- fied).....	638,190	226 <i>I</i>		
Molders and founders.....	105,139	85 <i>d</i>		
Painters, glaziers, varnishers, en- amellers, etc.....	524,150	164 <i>i</i>	4,781	144 <i>i</i>
Piano and organ tuners.....	6,799	92 <i>d</i>		
Plasterers and cement finishers...	85,477	186 <i>I</i>		
Plumbers, gas and steam fitters...	237,813	115		
Tailors and tailoresses.....	147,476	96 <i>d</i>	21,807	69 <i>D</i>
Operatives in:				
Chemical and allied industries...	88,604	173 <i>i</i>	28,863	151 <i>i</i>
Cigar and tobacco factories.....	35,767	58 <i>D</i>	67,948	81 <i>D</i>
Clay, glass, and stone industries	80,630	118	15,712	82 <i>D</i>
Shirt, collar, and cuff factories...	9,708	98 <i>d</i>	45,763	109
Suit, coat, and overall factories	50,190	63 <i>D</i>	56,583	88 <i>d</i>
Food and allied industries.....	135,830	103	88,586	121
Iron, steel, machinery, and vehi- cle industries.....	590,635	93 <i>d</i>	60,763	105 <i>d</i>
Automobile factories.....	142,925	131	19,032	154 <i>i</i>
Leather industries.....	175,768	90 <i>d</i>	91,750	111
Shoe factories.....	128,377	97 <i>d</i>	81,551	111
Lumber and furniture industries	157,861	105	19,596	105 <i>d</i>
Paper, printing, and allied in- dustries.....	102,421	117	63,490	94 <i>d</i>
Textile industries.....				
Cotton mills.....	156,818	102	145,683	98 <i>d</i>
Knitting mills.....	44,203	164 <i>i</i>	89,803	111
Silk mills.....	52,080	121	73,690	109 <i>d</i>
Woolen and worsted mills....	52,761	82 <i>d</i>	49,060	79 <i>D</i>
Electrical machinery and supply factories.....	72,012	192 <i>I</i>	45,315	165 <i>i</i>

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Table III (Continued)

COMPARISON OF 1920 AND 1930 FIGURES ON OCCUPATIONS IN THE UNITED STATES*

Occupation	Male		Female	
	1930	Percent- age of 1920	1930	Percent- age of 1920
Transportation and communication:				
Longshoremen and stevedores.....	73,944	86 <i>d</i>		
Sailors and deckhands.....	64,692	117		
Chauffeurs and truck and tractor drivers.....	970,916	341 <i>I</i>	1,502	153 <i>i</i>
Draymen and teamsters.....	111,178	27 <i>D</i>		
Brakemen, steam railroads.....	88,197	77 <i>d</i>		
Conductors, steam railroads.....	73,232	98 <i>d</i>		
Conductors, street railroads.....	35,680	56 <i>D</i>		
Locomotive engineers.....	101,201	92 <i>d</i>		
Switchmen, flagmen, yardmen....	102,484	92 <i>d</i>		
Motormen, street railroads.....	57,964	92 <i>d</i>		
Mail carriers.....	120,204	133 <i>i</i>	1,129	86 <i>D</i>
Telephone operators.....	13,625	116	235,259	132
Laborers, road and street.....	306,980	242 <i>I</i>		
Laborers, railroad.....	459,090	94 <i>d</i>	3,384	48 <i>D</i>
Trade:				
Bankers, brokers, and money- lenders.....	212,312	136 <i>i</i>	9,192	173 <i>i</i>
Stock brokers.....	69,157	236 <i>I</i>		
Commercial travelers.....	219,790	124	3,942	141
Delivery men.....	159,328	94 <i>d</i>		
Floorwalkers and foremen in stores.....	27,928	169 <i>i</i>	4,636	115
Insurance agents.....	243,974	212 <i>I</i>	12,953	225 <i>I</i>
Real-estate agents and officials....	208,243	149 <i>i</i>	31,787	346 <i>I</i>
Retail dealers.....	1,593,356	128	110,166	139
Sales persons.....	1,508,283	182 <i>I</i>	560,720	153 <i>i</i>
Undertakers.....	32,192	138 <i>i</i>	1,940	172 <i>i</i>
Wholesale dealers, importers and exporters.....	81,837	112		
Public service (not elsewhere classi- fied):				
Firemen, fire department.....	73,008	143 <i>i</i>		
Guards, watchmen, and door- keepers.....	147,115	128	1,000	251 <i>I</i>

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Table III (Continued)

COMPARISON OF 1920 AND 1930 FIGURES ON OCCUPATIONS IN THE UNITED STATES*

Occupation	Male		Female	
	1930	Percent- age of 1920	1930	Percent- age of 1920
Laborers, public service.....	155,903	148 <i>i</i>	1,107	73 <i>D</i>
Policemen.....	130,838	160 <i>i</i>	849	359 <i>I</i>
Professional service:				
Actors and showmen.....	54,511	161 <i>i</i>	20,785	145 <i>i</i>
Architects.....	21,621	120	379	
Artists, sculptors, and teachers of art.....	35,621	171 <i>i</i>	21,644	148 <i>i</i>
Authors, editors, and reporters....	46,922	115	17,371	199 <i>I</i>
Chemists, assayers, and metallur- gists.....	45,163	145 <i>i</i>	1,905	112
Clergymen.....	145,572	116	3,276	183 <i>I</i>
College presidents and professors	41,774	179 <i>I</i>	20,131	201 <i>I</i>
Dentists.....	69,768	128	1,287	70 <i>D</i>
Designers, draftsmen, and inven- tors.....	93,518	149 <i>i</i>	9,212	120
Lawyers, judges, and justices.....	157,220	130	3,385	195 <i>I</i>
Musicians and teachers of music....	85,517	148 <i>i</i>	79,611	110 <i>d</i>
Photographers.....	31,163	115	8,366	117
Physicians and surgeons.....	146,978	107	6,825	95 <i>d</i>
Teachers.....	202,337	165 <i>i</i>	860,278	135
Technical engineers:				
Civil engineers and surveyors....	102,057	158 <i>i</i>		
Electrical engineers.....	57,775	214 <i>I</i>		
Mechanical engineers.....	54,338	141 <i>i</i>		
Trained nurses.....	5,452	100	288,737	201 <i>I</i>
Veterinary surgeons.....	11,852	82 <i>d</i>		
Librarians.....	2,557	142 <i>i</i>	27,056	200 <i>I</i>
Domestic and personal service:				
Barbers, hairdressers, and mani- curists.....	261,096	143 <i>i</i>	113,194	304 <i>I</i>
Boarding and lodging-house keepers.....	17,093	92 <i>d</i>	127,278	111
Cleaning, dyeing, and pressing shop workers.....	66,515	389 <i>I</i>	21,603	473 <i>I</i>
Elevator tenders.....	55,255	165 <i>i</i>	12,359	168 <i>i</i>
Housekeepers and stewards.....	20,383	118	236,363	115

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Table III (Continued)

COMPARISON OF 1920 AND 1930 FIGURES ON OCCUPATIONS IN THE UNITED STATES*

Occupation	Male		Female	
	1930	Percent- age of 1920	1930	Percent- age of 1920
Janitors and sextons.....	273,805	183 <i>I</i>	35,820	123
Launderers and laundresses (not in laundry).....	4,565	42 <i>D</i>	356,468	92 <i>d</i>
Laundry operatives.....	80,229	201 <i>I</i>	160,475	199 <i>I</i>
Nurses (not trained).....	13,867	72 <i>D</i>	139,576	105 <i>d</i>
Restaurant, cafe, and lunch-room keepers.....	125,398	173 <i>i</i>	40,008	256 <i>I</i>
Servants:				
Cooks.....	194,297	150 <i>i</i>	371,095	138
Other servants.....	169,877	132 <i>i</i>	1,263,864	170 <i>i</i>
Waiters.....	161,315	144 <i>i</i>	231,973	198 <i>I</i>
Clerical occupations:				
Agents, collectors, and credit men	182,630	122	13,477	116
Accountants and auditors.....	174,557	166 <i>i</i>	17,014	127
Bookkeepers and cashiers.....	273,380	101	465,697	135
Clerks (not in stores).....	1,290,447	127	706,553	149 <i>i</i>
Messenger, errand, and office boys and girls.....	81,430	82 <i>d</i>	8,949	63 <i>D</i>
Stenographers and typists.....	36,050	72 <i>D</i>	775,140	137

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Table IV

RANKINGS OF OCCUPATIONS ACCORDING TO BARR SCALE

Hierarchy of occupations with respect to their relative demands upon intelligence based upon the ratings of 30 judges.*

Occupation	Description
Hobo.....	
Odd jobs.....	
Garbage collector.....	
Circus roustabout.....	Does heavy, rough work about circus.
Hostler.....	Care of horses in livery, feed, and sales stables.
Railroad section hand.....	Replaces ties, etc., under supervision.
Day laborer.....	On street, in shop, or factory as roustabout.
Track layer.....	Does heavy work under supervision
Waterworks man.....	A variety of odd jobs, all unskilled.
Miner.....	Digger and shoveler, etc.

* Terman, Lewis M., et al., *Genetic Studies of Genius*, Vol. I, Stanford University
Stanford University, Calif., 1925, pp. 67-69.

Table IV (Continued)

RANKINGS OF OCCUPATIONS ACCORDING TO BARR SCALE

Occupation	Description
Longshoreman.....	Loads and unloads cargoes.
Farm laborer.....	Unskilled and usually inefficient.
Laundry worker.....	Various kinds of work in laundry (practically unskilled).
Bar tender.....	
Teamster.....	
Saw-mill worker.....	Heavy work, little skill required.
Dairy hand.....	Milking, care of stock under supervision.
Drayman.....	
Deliveryman.....	Delivers groceries, etc., with team or auto.
Junkman.....	Collector of junk.
Switchman.....	Tending switch in railroad yards.
Smelter worker.....	Metal pourers, casting collectors, etc.
Tire repairer.....	In general automobile-repair shop.
Cobbler and shoemaker.....	Repairman in shoe shop.
Munition worker.....	Average.
Barber.....	Not owner. Has charge of chair.
Moving-picture operator.....	Operates machine which projects pictures.
Vulcanizer.....	Understands the process of hardening rubber.
General repairman.....	Repairs broken articles. Uses wood-working tools.
Ship rigger.....	Installing cordage system on sailing vessels, working under supervision.
Telephone operator.....	
Cook.....	In restaurant or small hotel.
Street-car conductor.....	
Farm tenants.....	On small tracts of land.
Brakeman.....	On freight or passenger trains.
City fire fighter.....	Handles the ordinary fire-fighting apparatus.
Railroad fireman.....	On freight or passenger train.
Policeman.....	Average patrolman.
Structural steel worker.....	Heavy work demanding some skill.
Telephone and telegraph lineman.....	
Bricklayer.....	
Butcher.....	Not shop owner. Able to make cuts properly.
Baker.....	
Metal finisher.....	Polishes and lacquers metal fixtures, etc.
Plasterer.....	Knowledge of materials used necessary.
General painter.....	Paints houses, buildings, and various structures.
Harness maker.....	
Tinsmith.....	Makes vessels, utensils, etc., from plated sheet metal.
Letter carrier.....	
Forest ranger.....	
Stone mason.....	
Plumber.....	Average trained plumber employee.

Table IV (Continued)

RANKINGS OF OCCUPATIONS ACCORDING TO BARR SCALE

Occupation	Description
Gardening, truck farming.....	Owens and operates small plot.
Electric repairman.....	Repairs electric utensils, devices, and machines.
Bookbinder.....	Sets up and binds books of all sorts.
Carpenter.....	Knows wood-working tools. Can follow directions in various processes of wood construction work.
Potter.....	Makes jars, jugs, crockery, earthenware, etc.
Tailor.....	Employee in tailoring shop.
Salesman.....	In drygoods, hardware, grocery stores, etc.
Telegraph operator.....	In small town.
Undertaker.....	In small town. Six months to a year special schooling.
Station agent.....	In small town. Acts as baggage man, freight agent, operator, etc.
Mechanical repair man.....	In shop or factory. Keeps machines in condition.
Dairy owner and manager.....	Small dairy, 50 to 100 cows.
Metal pattern maker.....	
Wood pattern maker.....	
Lithographer.....	Makes prints from designs which he puts on stone.
Linotype operator.....	
Photographer.....	City of 1,000 to 5,000. A few months' training, experience in studio.
Detective.....	Traces clues, etc. Employee of detective bureau.
Electrotyper.....	Prepares wood cuts.
Traveling salesman.....	Sells drugs, groceries, hardware, drygoods, etc.
Clerical work.....	Bookkeepers, recorders, abstractors, etc.
Railroad passenger condr.....	
Storekeeper and owner.....	Small-town retail dealer, general or special store.
Foreman.....	Small factory, shop, etc.
Stenographer.....	Writes shorthand and uses typewriter.
Librarian.....	In small institution or public library.
Nurse and masseur.....	Graduate.
Chef.....	Employed in large first-class hotels.
Editor.....	Small paper, considerable job work.
Primary teacher.....	No college training, two years of special training.
Landscape gardener.....	
Grammar-grade teacher.....	Normal graduate expects to make a profession of teaching.
Osteopath.....	Training equal to college graduate.
Pharmacist.....	In town of from 1,000 to 5,000 population.
Master mechanic.....	Thorough knowledge in his field of mechanics.

Table IV (Continued)

RANKINGS OF OCCUPATIONS ACCORDING TO BARE SCALE

Occupation	Description
Music teacher.....	Two to four years' special training, not college graduate.
Manufacturer.....	Employs from ten to fifty men. Makes simple articles.
Dentist.....	Graduate. Two to five years' experience in small town.
Art teacher.....	In high school. Three or four years' special training.
Surveyor.....	Transit man. City or county surveyor.
Train dispatcher.....	Must be mentally alert.
Landowner and operator.....	Very large farms or ranches.
Musician.....	Successful player or singer in good company.
Secretarial work.....	Private secretary to high state or national officials.
High-school teacher.....	College or normal graduate. Not the most progressive.
Preacher.....	Minister in town of 1,000 to 5,000. College graduate.
Industrial chemist.....	Thorough knowledge of the chemistry of manufacturing processes.
Mechanical engineer.....	Designs and constructs machines and machine tools.
Teacher in college.....	Degree A.B. or A.M. Not the most progressive.
Lawyer.....	In town of moderate size. Income \$1,000 to \$5,000.
Technical engineer.....	Thorough knowledge of the processes of an industry.
Artist.....	High-class painter of portraits, etc.
Mining engineer.....	Thorough knowledge of mining and extraction of metals.
Architect.....	Training equal to college graduate.
Great wholesale merchant.....	Business covering one or more states.
Consulting engineer.....	In charge of corps of engineers.
Educational administrator.....	Superintendent in city of 2,000 to 5,000. College or normal graduate.
Physician.....	Six to eight years' preparation above high school. Income \$5,000 and up.
Journalist.....	High-class writer or editor.
Publisher.....	High-class magazine and newspaper or periodical, etc.
University professor.....	Has A.M. or Ph.D.; writes, teaches, and does research.
Great merchant.....	Owns and operates a million-dollar business
Musician.....	(Paderewski)
High national official.....	Cabinet officers, foreign ministers, etc.
Writer.....	(Van Dyke)
Research leader.....	Like Binet or Pasteur.
Surgeon.....	(Mayo brothers)
Inventive genius.....	(Edison type)

Table V

GRADED AVERAGE WEIGHT OF MEN OF DIFFERENT STATURES AT
VARIOUS AGES*

(Copied from Table IV of "Medico-actuarial mortality investigations")

Age, years	5 feet	5 feet 1 inch	5 feet 2 inches	5 feet 3 inches	5 feet 4 inches	5 feet 5 inches	5 feet 6 inches	5 feet 7 inches	5 feet 8 inches	5 feet 9 inches	5 feet 10 inches	5 feet 11 inches	6 feet	6 feet 1 inch	6 feet 2 inches	6 feet 3 inches	6 feet 4 inches	6 feet 5 inches
15	107	109	112	115	118	122	126	130	134	138	142	147	152	157	162	167	172	177
16	109	111	114	117	120	124	128	132	136	140	144	149	154	159	164	169	174	179
17	111	113	116	119	122	126	130	134	138	142	146	151	156	161	166	171	176	181
18	113	115	118	121	124	128	132	136	140	144	148	153	158	163	168	173	178	183
19	115	117	120	123	126	130	134	138	142	146	150	155	160	165	170	175	180	185
20	117	119	122	125	128	132	136	140	144	148	152	156	161	166	171	176	181	186
21	118	120	123	126	130	134	138	141	145	149	153	157	162	167	172	177	182	187
22	119	121	124	127	131	135	139	142	146	150	154	158	163	168	173	178	183	188
23	120	122	125	128	132	136	140	143	147	151	155	159	164	169	175	180	185	190
24	121	123	126	129	133	137	141	144	148	152	156	160	165	171	177	182	187	192
25	122	124	126	129	133	137	141	145	149	153	157	162	167	173	179	184	189	194
26	123	125	127	130	134	138	142	146	150	154	158	163	168	174	180	186	191	196
27	124	126	128	131	134	138	142	146	150	154	158	163	169	175	181	187	192	197
28	125	127	129	132	135	139	143	147	151	155	159	164	170	176	182	188	193	198
29	126	128	130	133	136	140	144	148	152	156	160	165	171	177	183	189	194	199
30	126	128	130	133	136	140	144	148	152	156	161	166	172	178	184	190	196	201
31	127	129	131	134	137	141	145	149	153	157	162	167	173	179	185	191	197	202
32	127	129	131	134	137	141	145	149	154	158	163	168	174	180	186	192	198	203
33	127	129	131	134	137	141	145	149	154	159	164	169	175	181	187	193	199	204
34	128	130	132	135	138	142	146	150	155	160	165	170	176	182	188	194	200	206
35	128	130	132	135	138	142	146	150	155	160	165	170	176	182	189	195	201	207
36	129	131	133	136	139	143	147	151	156	161	166	171	177	183	190	196	202	208
37	129	131	133	136	140	144	148	152	157	162	167	172	178	184	191	197	203	209
38	130	132	134	137	140	144	148	152	157	162	167	173	179	185	192	198	204	210
39	130	132	134	137	140	144	148	152	157	162	167	173	179	185	192	199	205	211
40	131	133	135	138	141	145	149	153	158	163	168	174	180	186	193	200	206	212
41	131	133	135	138	141	145	149	153	158	163	168	174	180	186	193	200	207	213
42	132	134	136	139	142	146	150	154	159	164	169	175	181	187	194	201	208	214
43	132	134	136	139	142	146	150	154	159	164	169	175	181	187	194	201	208	214
44	133	135	137	140	143	147	151	155	160	165	170	176	182	188	195	202	209	215
45	133	135	137	140	143	147	151	155	160	165	170	176	182	188	195	202	209	215
46	134	136	138	141	144	148	152	156	161	166	171	177	183	189	196	203	210	216
47	134	136	138	141	144	148	152	156	161	166	171	177	183	190	197	204	211	217
48	134	136	138	141	144	148	152	156	161	166	171	177	183	190	197	204	211	217
49	134	136	138	141	144	148	152	156	161	166	171	177	183	190	197	204	211	217
50	134	136	138	141	144	148	152	156	161	166	171	177	183	190	197	204	211	217
51	135	137	139	142	145	149	153	157	162	167	172	178	184	191	198	205	212	218
52	135	137	139	142	145	149	153	157	162	167	172	178	184	191	198	205	212	218
53	135	137	139	142	145	149	153	157	162	167	172	178	184	191	198	205	212	218
54	135	137	139	142	145	149	153	158	163	168	173	178	184	191	198	205	212	219
55 and up	135	137	139	142	145	149	153	158	163	168	173	178	184	191	198	205	212	219

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Table VI

GRADED AVERAGE WEIGHT OF WOMEN OF DIFFERENT STATURES
AT VARIOUS AGES*

(Copied from Table IX of "Medico-actuarial mortality investigations")

Age, years	4 feet 8 inches	4 feet 9 inches	4 feet 10 inches	4 feet 11 inches	5 feet	5 feet 1 inch	5 feet 2 inches	5 feet 3 inches	5 feet 4 inches	5 feet 5 inches	5 feet 6 inches	5 feet 7 inches	5 feet 8 inches	5 feet 9 inches	5 feet 10 inches	5 feet 11 inches	6 feet
15	101	103	105	106	107	109	112	115	118	122	126	130	134	138	142	147	152
16	102	104	106	108	109	111	114	117	120	124	128	132	136	139	143	148	153
17	103	105	107	109	111	113	116	119	122	125	129	133	137	140	144	149	154
18	104	106	108	110	112	114	117	120	123	126	130	134	138	141	145	150	155
19	105	107	109	111	113	115	118	121	124	127	131	135	139	142	146	151	155
20	106	108	110	112	114	116	119	122	125	128	132	136	140	143	147	151	156
21	107	109	111	113	115	117	120	123	126	129	133	137	141	144	148	152	156
22	107	109	111	113	115	117	120	123	126	129	133	137	141	145	149	153	157
23	108	110	112	114	116	118	121	124	127	130	134	138	142	146	150	153	157
24	109	111	113	115	117	119	121	124	127	130	134	138	142	146	150	154	158
25	109	111	113	115	117	119	121	124	128	131	135	139	143	147	151	154	158
26	110	112	114	116	118	120	122	125	128	131	135	139	143	147	151	155	159
27	110	112	114	116	118	120	122	125	129	132	136	140	144	148	152	155	159
28	111	113	115	117	119	121	123	126	130	133	137	141	145	149	153	156	160
29	111	113	115	117	119	121	123	126	130	133	137	141	145	149	153	156	160
30	112	114	116	118	120	122	124	127	131	134	138	142	146	150	154	157	161
31	113	115	117	119	121	123	125	128	132	135	139	143	147	151	154	157	161
32	113	115	117	119	121	123	125	128	132	136	140	144	148	152	155	158	162
33	114	116	118	120	122	124	126	129	133	137	141	145	149	153	156	159	162
34	115	117	119	121	123	125	127	130	134	138	142	146	150	154	157	160	163
35	115	117	119	121	123	125	127	130	134	138	142	146	150	154	157	160	163
36	116	118	120	122	124	126	128	131	135	139	143	147	151	155	158	161	164
37	116	118	120	122	124	126	129	132	136	140	144	148	152	156	159	162	165
38	117	119	121	123	125	127	130	133	137	141	145	149	153	157	160	163	166
39	118	120	122	124	126	128	131	134	138	142	146	150	154	158	161	164	167
40	119	121	123	125	127	129	132	135	138	142	146	150	154	158	161	164	167
41	120	122	124	126	128	130	133	136	139	143	147	151	155	159	162	165	168
42	120	122	124	126	128	130	133	136	139	143	147	151	155	159	162	166	169
43	121	123	125	127	129	131	134	137	140	144	148	152	156	160	163	167	170
44	122	124	126	128	130	132	135	138	141	145	149	153	157	161	164	168	171
45	122	124	126	128	130	132	135	138	141	145	149	153	157	161	164	168	171
46	123	125	127	129	131	133	136	139	142	146	150	154	158	162	165	169	172
47	123	125	127	129	131	133	136	139	142	146	151	155	159	163	166	170	173
48	124	126	128	130	132	134	137	140	143	147	152	156	160	164	167	171	174
49	124	126	128	130	132	134	137	140	143	147	152	156	161	165	168	172	175
50	125	127	129	131	133	135	138	141	144	148	152	156	161	165	169	173	176
51	125	127	129	131	133	135	138	141	144	148	152	157	162	166	170	174	177
52	125	127	129	131	133	135	138	141	144	148	152	157	162	166	170	174	177
53	125	127	129	131	133	135	138	141	144	148	152	157	162	166	170	174	177
54	125	127	129	131	133	135	138	141	144	148	153	158	163	167	171	174	177
55	125	127	129	131	133	135	138	141	144	148	153	158	163	167	171	174	177

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SUGGESTED TESTS AND RATING SCALES FOR A PERSONAL INVENTORY
Prepared by Mary E. Herschberger, Testing Division, Bureau of Research, Pasadena City Schools.

(Starred (*) entries are especially recommended for a general inventory, irrespective of one's special interests or aptitudes.)

Tests of Aptitudes

Artistic:

1. LEWERENZ: Tests in Fundamental Abilities of Visual Art, Los Angeles, Calif., Southern California Schoolbook Depository, 1927.
2. MEIER: Test of Artistic Aptitude, Iowa City, Iowa, University of Iowa Press, 1926.
3. MEIER-SEASHORE: Art Judgment Test, Iowa City, Iowa, University of Iowa, Bureau of Educational Research and Service, 1929.
4. MCADORY: Test of Artistic Discrimination, New York, Columbia University, Bureau of Publications, 1929.

Clerical and Business:

5. HOKE: Prognostic Test of Stenographic Ability, New York, Gregg Publishing Company, 1922.
6. MOSS, OMWAKE, and HUNT: Business Aptitude Test, Washington, D. C., Center for Psychological Service, 1926.
7. O'ROURKE: Series of Aides in Placement and Guidance, Educational and Personnel Publishing Company, 1926.

Mechanical:

8. PATERSON, ELLIOT, *et al.*: Minnesota Mechanical Ability Tests, Minneapolis, University of Minnesota Press, 1930.
9. MACQUARRIE: Test of Mechanical Ability, Los Angeles, Calif., Southern California Schoolbook Depository, 1925.
10. STENQUIST: Mechanical Aptitude Tests, Yonkers-on-Hudson, N. Y., World Book Company, 1921.

Musical:

- *11. SEASHORE: Measures of Musical Talent, Chicago, C. H. Stoelting Publishing Company, 1919.
12. KWALWASSER-DYKEMA: Music Tests, New York, Carl Fisher, Inc.

Scientific:

13. ZYVE: Stanford Scientific Aptitude Test, Stanford University, Calif., Stanford University Press, 1930.

Tests of Interests

14. MCHALE: An Information Test of Interest, *Psychological Clinic*, 19: 53-58, 1930.
15. MINER: Analyses of Work Interest Blank, Chicago, C. H. Stoelting Publishing Company, 1926.

- *16. **STRONG:** Vocational Interest Blank, Stanford University, Calif., Stanford University Press, 1930.
- *17. **STRONG:** Vocational Interest Blank for Women, Stanford University, Calif., Stanford University Press, 1933.
- 18. **SYMONDS-GARRETSON:** Vocational Questionnaire, New York, Columbia University, Bureau of Publications, 1930.

Tests and Inventories of Personality Trends

- 19. **ALLPORT:** A-S Scale, Boston, Houghton Mifflin Company, 1928.
- 20. **ALLPORT:** Outline for the Study of the Individual, Chicago, C. H. Stoelting Publishing Company, 1926.
- 21. **ALLPORT:** Systematic Questionnaire for the Study of Personality, Chicago, C. H. Stoelting Publishing Company, 1925.
- *22. **BELL, HUGH M.:** The Adjustment Inventory, Stanford University, Calif., Stanford University Press, 1934.
- *23. **BERNREUTER:** The Personality Inventory, Stanford University, Calif., Stanford University Press, 1931.
- 24. **CHASSELL:** Experience Variables Record, Rochester, N. Y., J. O. Chassell, University of Rochester Medical School, 1928.
- 25. **HEIDBREDER:** Minnesota Personal Traits Rating Scales: Introversion-Extroversion and Inferiority Attitudes, Chicago, C. H. Stoelting Publishing Company.
- 26. **LAIRD:** Colgate Personal Inventory Rating Scales, Hamilton, N. Y., Hamilton Republican Press, 1925.
- 27. **PRESSEY:** X-O Test, Chicago, C. H. Stoelting Publishing Company, 1921.
- 28. **THURSTONE:** Personality Schedule, Chicago, University of Chicago Press, 1930.
- *29. **THURSTONE:** Scales for Measurement of Social Attitude, Chicago, University of Chicago Press, 1928 (in progress).
- *30. **VERNON-ALLPORT:** Test of Social Values, Boston, Houghton Mifflin Company, 1925.
- *31. **WATSON:** Test of Public Opinion on Religious and Economic Questions, New York, Columbia University, Bureau of Publications, 1927.
- 32. **WOODWORTH:** Personal Data Sheet, Chicago, C. H. Stoelting Publishing Company, 1918.

Tests of Mental Ability

- 33. **American Council Intelligence Test**, Washington, D. C., American Council of Education.
- 34. **The Carnegie Mental Ability Tests**, Boston, Houghton Mifflin Company.
- 35. **KUHLMAN-ANDERSON:** Intelligence Tests, Minneapolis, Educational Test Bureau, 1927.
- *36. **ORIS:** Self Administering Tests of Mental Ability, Yonkers-on-Hudson, N. Y., World Book Company, 1922.
- *37. **TERMAN:** Group Test of Mental Ability, Yonkers-on-Hudson, N. Y., World Book Company, 1920.

Tests of Reading Ability

*38. GREENE, H. A., A. N. JORGENSEN, and V. H. KELLEY, *Iowa Silent Reading Test*, Form A & B, Yonkers-on-Hudson, N. Y., World Book Company, 1931.

39. NELSON, M. J., and E. C. DENNY, *The Nelson-Denny Reading Test*, Form A and B, Boston, Houghton Mifflin Company, 1929.

For additional tests see the following references:

American Educational Research Association: Tests of Intelligence and Aptitude, *Review of Educational Research*, Vol. II, No. 4, October, 1932, 342 pp.

American Educational Research Association: Tests of Personality and Character, *Review of Educational Research*, Vol. II, No. 3, June, 1932, 270 pp.

HILDRETH, GERTRUDE H.: *Bibliography of Mental Tests and Rating Scales*, New York, The Psychological Corporation, 1933.

SAMPLES OF MENTAL TESTS*

Reading Vocabulary
(Mentimeter No. 19)

One of the most valuable measures of any individual or group of individuals is the extent of the vocabulary found necessary for communication and social activities. Vocabulary has been shown to be quite closely related to intelligence.

Directions for Taking the Test

Do not look at the test until you are ready to begin. Page 310 is a list of forty different words. The test is to determine how many of these words you can read and identify. At the top of the page you will find the words, Animal, Body, Bird, Colour, Clothes, Fish, Time, Tool, and War. Each of the forty words to be identified is connected with or is a kind of Animal, Body, Bird, Colour, or other kind of thing mentioned at the top of the page. The page is ruled both ways. You are to look at each word in the column on the left and to make a check mark at the right of it, under the general word showing whether the word you are marking is an Animal, a Body, a Bird, or something else. You will be allowed exactly four minutes in which to check the words. Mark as many of the words as you possibly can but be sure to check them correctly. Have someone time you, giving the signal "Ready! Go!" to start, and "Stop" at the end of exactly four minutes.

Indicate the meaning of each of the forty words in the column on the left by making a mark (✓) under the proper word.

* From *Measure Your Mind: The Mentimeter and How to Use It*, by M. R. Trabue and Frank Parker Stockbridge, copyright 1920 by Doubleday, Doran and Company, Inc.

CONNECTED WITH, OR A KIND OF

	ANIMAL	BODY	BIRD	COLOUR	CLOTHES	FISH	TIME	TOOL	WAR
arm.....									1
cow.....									2
stocking.....									3
yellow.....									4
sparrow.....									5
shirt.....									6
calf.....									7
hammer.....									8
shin.....									9
saw.....									10
wren.....									11
tan.....									12
cod.....									13
troops.....									14
year.....									15
conquer.....									16
stag.....									17
minnow.....									18
month.....									19
kimono.....									20
rampart.....									21
thigh.....									22
carmine.....									23
partridge.....									24
sturgeon.....									25
ratchet.....									26
interim.....									27
peccary.....									28
mauve.....									29
citadel.....									30
ephemeral.....									31
tartan.....									32
peritoneum.....									33
petrel.....									34
tench.....									35
vomer.....									36
burgonet.....									37
burin.....									38
deaman.....									39
tinamou.....									40

Total number of words correctly checked.

Directions for Scoring the Test

The total score in this test is the number of words correctly checked. On pages 317 to 318 is a list of correct responses. Scores may be interpreted roughly as follows:

Scores from 0 to 8 indicate Inferior Ability

Scores from 9 to 14 indicate Low Average Ability

Scores from 15 to 24 indicate Average Ability

Scores from 25 to 29 indicate High Average Ability

Scores from 30 to 40 indicate Superior Ability

Analogies or Mixed-relations Test
(Mentimeter No. 24)

The method of the Analogies test is known as the "controlled-association method." Two words are presented having a very definite relation to each other. A third word is then presented, followed by a blank space upon which the candidate is to write a fourth word which will have the same relation to the third word as the second word has to the first. The relation between the first two or key words in each element of the test differs from the relation between the key words of the previous element, resulting in a constant change in the problem to be solved, which requires quick readjustments in the candidate's thought processes. The candidate must be intellectually alert to discover the true relation between the key words, his mind must be well supplied by experience with words and ideas associated with the third word, and then he must use good judgment and discrimination in the selection of that word which has the *proper* relation to the third word.

Directions for Taking the Test

Do not look at the test until you are ready to begin. You will find in the test thirty lines of words—three words and a blank space being printed on each line. In each of these lines, the first two words are related to each other in a certain way which you are to study out. You are then to write, in the blank space at the end, a fourth word which has the same relation to the third word as the second word has to the first.

Look, for example, at the first sample, in which the second word is the plural of the first. Boxes means more than one Box, so the fourth word should be Cats, meaning more than one Cat.

Write a fourth word which fits the third in the same way the second word fits the first.

1st Sample: BOX.....	Boxes....	CAT.....	_____
2d Sample: DOWN.....	Up.....	IN.....	_____
3d Sample: EYES.....	See.....	EARS....	_____

In the second sample, the fourth word should be Out, because Up is the opposite of Down, and Out is the opposite of In.

In the third sample, the fourth word should be Hear, for See tells what Eyes are used for, and Hear tells for what Ears are used.

You will have three minutes in which to write the fourth word in the thirty lines of the test. Work as rapidly as you can without making mistakes. Have someone time you exactly three minutes and stop the instant that time is up.

Write a fourth word which fits the third in the same way the second word fits the first.

FIRST	SECOND	THIRD	FOURTH	
1. CAR.....	Cars.....	DOG.....	_____	1
2. FRONT.....	Back.....	NEAR.....	_____	2
3. HAT.....	Head.....	SHOE.....	_____	3

	FIRST	SECOND	THIRD	FOURTH	
4.	BOY.....	Boy's.....	CAT.....	_____	4
5.	ICE.....	Cold.....	FIRE.....	_____	5
6.	BIRD.....	Flies.....	FISH.....	_____	6
7.	MEN'S.....	Man.....	HENS'.....	_____	7
8.	BREAD.....	Eat.....	WATER.....	_____	8
9.	ACTOR.....	Theater.....	TEACHER.....	_____	9
10.	HE.....	Him.....	SHE.....	_____	10
11.	PRIEST.....	Religion.....	ATTORNEY.....	_____	11
12.	CAT.....	Kitten.....	HORSE.....	_____	12
13.	DO.....	Did.....	BUY.....	_____	13
14.	SCULPTOR.....	Statue.....	PAINTER.....	_____	14
15.	BOY.....	Man.....	LAMB.....	_____	15
16.	TOP.....	Bottom.....	CEILING.....	_____	16
17.	WATER.....	Fish.....	AIR.....	_____	17
18.	TRAIN.....	Engineer.....	AUTOMOBILE.....	_____	18
19.	STAND.....	Stood.....	BE.....	_____	19
20.	CATTLE.....	Herd.....	FISH.....	_____	20
21.	WORK.....	Day.....	SLEEP.....	_____	21
22.	THREW.....	Thrown.....	ROSE.....	_____	22
23.	GOOSE.....	Gander.....	DUCK.....	_____	23
24.	BANTAM.....	Fowl.....	MERINO.....	_____	24
25.	GIRL.....	Girls'.....	WOMAN.....	_____	25
26.	WRONG.....	Right.....	STEAL.....	_____	26
27.	FOOT.....	Feet.....	AVIATRIX.....	_____	27
28.	HOUSES.....	House.....	CRITERIA.....	_____	28
29.	QUEEN.....	Queens'.....	JONES.....	_____	29
30.	PESSIMIST.....	Optimist.....	EXOTERIC.....	_____	30
Total number of correct responses.....					_____

Scoring the Test

The final score is the total number of correct responses according to the scoring key on page 318. Since there are thirty lines, the maximum score possible is 30.

Scores may be interpreted roughly as follows:

- Scores from 0 to 5 indicate Inferior Ability
- Scores from 6 to 12 indicate Low Average Ability
- Scores from 13 to 23 indicate Average Ability
- Scores from 24 to 26 indicate High Average Ability
- Scores from 27 to 30 indicate Superior Ability

Arithmetic Reasoning (Mentimeter No. 28)

In practical life, arithmetic has been recognized as being of value because the training in arithmetic was supposed to enable a person to keep other people from cheating him in financial transactions. Arithmetic problems

have had and will continue to have a distinctive place in the measurement of intellectual capacity. It is probable that this place is well deserved.

Directions for Taking the Test

Do not look at the test until you are ready to begin. You will find fourteen problems in arithmetic. The first problems are simple and easy and the last ones are more difficult. Begin with the first problem and solve as many as you can in the four minutes allowed. Write your answer at the right-hand side of the questions on the blank lines provided for the answers. You may figure on the left-hand side or on the back of the blank, if you wish. Solve as many problems as you can but be sure to get the answer right. Have someone time you exactly four minutes, giving you the signals, "Ready! Go!" and "Stop."

Write the answers to these problems on the blanks. Use another sheet of paper to figure on.

ANSWERS

1. How many are 5 men and 3 men? _____
2. If you earn 2 dollars each day, how much do you earn in 6 days? _____
3. If you have 10 nickels and lose 3 of them, how many would you have after you found 2 of those that were lost? _____
4. How many benches will be needed in order to seat 20 people at a picnic, if 4 people sit on each bench? _____
5. If James sold 3 Sunday papers for 5 cents each and then bought an apple for 3 cents and an orange for 4 cents, how much money had he left? _____
6. How much change should you get from a dollar bill after buying 39 cents' worth of potatoes, 12 cents' worth of celery, and 26 cents' worth of butter? _____
7. If the price of lemons is 2 for 5 cents, how many can you buy for 40 cents? _____
8. If 29 merchants each bought 34 quarts of canned peas at a wholesale house which had previously sold 2,387 quarts of the same brand, what was the total number of quarts of this brand sold? _____
9. If a wholesale merchant sold for \$50 sugar which he had purchased for \$45 and thereby gained 1 cent per pound, how many pounds of sugar were there? _____
10. If four and a half pounds of fancy onions cost 27 cents, how much will eight and a half pounds cost? _____
11. Half of the people in a certain city block were born of American parents, one eighth have American fathers and foreign-born mothers, one eighth have American mothers and foreign-born fathers, and both parents of the rest are foreign-born. Of the 1,200 people living in this block, how many have American fathers? _____
12. A factory used 1,288 tons of coal in 23 days. During the first ten days after a new addition to the factory was

opened, the average daily coal consumption was 78 tons. How many more tons were burned per day than previously?

13. A man spent for cigars and tobacco one sixteenth of his wages for one day. He spent five times as much for food, and half of what remained for repairs on his watch, which left him a dollar and a half. How much did he receive per day?
14. At the middle of the month a merchant had \$1,200 in the bank. He deposited \$30 each day for six days and on Monday morning wrote checks for two thirds as much as his deposits for the week. Tuesday afternoon he deposited a check one fourth as large as his balance in the bank. What was his balance on Tuesday night?

Total number of correct answers.....

Directions for Scoring the Test

The score in this test is the number of problems with absolutely correct answers. No credit should be given for partially correct answers. The scoring key is on page 318.

Scores may be interpreted roughly as follows:

- Scores from 0 to 3 indicate Inferior Ability
- Scores from 4 to 7 indicate Low Average Ability
- Scores from 8 to 10 indicate Average Ability
- Scores of 11 and 12 indicate High Average Ability
- Scores of 13 and 14 indicate Superior Ability

Practical Judgment Test

(Mentimeter No. 29)

The use of questions, in the answering of which thoughtful judgment about every-day affairs would be required, has always been a favourite method of attempting to discover the degree of intelligence possessed by a child or by an adult.

Directions for Taking the Test

Do not look at the test until you are ready to begin. The test contains 24 questions and 4 answers to each question. You are to vote for the best answer to each question by making a check mark (✓) in the blank that stands before it. The questions are not hard, and you will be allowed 3 minutes to check the best answers, but be sure to work carefully and rapidly. Vote only for the one best answer to each question. Have someone time you exactly 3 minutes.

Mark (✓) in the blank in front of the best answer to each question.

1. What should one do when he is thirsty?
 - ____ Cry until someone gives him a drink.
 - ____ Eat a piece of salt pork.
 - ____ Get a drink of water.
 - ____ Read a Coca-Cola advertisement.

2. Why do children like to eat candy?
It makes them fat.
It tastes good.
It is good for them.
It is a cheap food.
3. What should one do if it is raining when he starts to work?
___ Put on lighter clothing.
___ Wear a raincoat.
___ Call up the office.
___ Stay at home all day.
4. What is the thing to do when your house catches fire?
___ Try to find out how it started.
___ Ring the alarm and try to put out the fire.
___ Run in the other direction.
___ Watch it burn and calculate your insurance.
5. What should one do if he accidentally steps on someone else's toes?
___ Call for help.
___ Run for the doctor.
___ Ask the person's pardon.
___ Take his own part.
6. Why do the leaves fall off the trees in the autumn?
___ The frost has killed them.
___ To protect the flowers from freezing.
___ To enrich the ground.
___ So that one can see farther.
7. Why do people wear heavier clothing in January than in June?
___ To protect them from the colder weather.
___ Because it looks better with furs.
___ Everybody else does it, especially in January.
___ It makes a good impression on other people.
8. Where might one expect to find the largest number of expert swimmers?
___ At the circus.
___ At the beach of a summer resort.
___ At a Sunday School picnic.
___ At a moving picture show.
9. What should a person do when he is late getting started to work in the morning?
___ Wait until the next day.
___ Think up some excuse to make.
___ Try to make time by hurrying.
___ Blame it on the street cars.
10. Why do school houses usually have flag-poles?
___ For the boys to exercise on.
___ To show where to have a flag drill.
___ To display the flag and inspire patriotism.
___ To decorate the school yard.
11. Why does water freeze in winter?
It is warm in summer and we need ice.
___ the children can skate.

- ___Water always becomes solid at low temperatures.
- ___So it can be put in refrigerators.
- 12. What is the best way to stop up a hole by which mice enter the kitchen?
 - ___Stuff it with paper.
 - ___Place a pile of rags in front of it.
 - ___Put a corn cob in it.
 - ___Nail a piece of tin over it.
- 13. Why is milk a good thing to feed young children?
 - It comes from cows that eat fresh grass.
 - It is an easily digested and wholesome food.
 - It is so pure and white to look at.
 - It can be bought in pint or quart bottles.
- 14. What kind of light is best for a reading table?
 - ___A tallow candle.
 - ___A mercury vapour lamp.
 - ___A coal oil lantern.
 - ___An incandescent electric bulb.
- 15. What is the purpose of advertising food products?
 - ___To make people hungry.
 - ___To decorate street cars and magazines.
 - ___To make people think about eating.
 - ___To create a demand for special brands.
- 16. Why is harness put on horses?
 - ___So that their strength may be utilized.
 - ___So that their beauty will be recognized.
 - ___To match the colour of the carriage.
 - ___To keep them warm.
- 17. Why do people put food in refrigerators?
 - ___To get it out of the way.
 - ___The low temperature keeps it fresh.
 - ___To help ice men make a living.
 - ___Because the law requires it.
- 18. Why are fire escapes more frequently put on tall buildings than on one-story buildings?
 - ___A tall building is more likely to burn down.
 - ___They would spoil the looks of a low building.
 - ___Low buildings have fire extinguishers.
 - ___One could jump from one-story buildings.
- 19. What should one do with a baby when it cries?
 - ___Discover and remove the cause of its crying.
 - ___Spank it and put it to bed.
 - ___Get it a drink of water and rock its cradle.
 - ___Give it a bottle of milk or sing to it.
- 20. Why is country air considered more healthful than city air?
 - ___It has fewer impurities in it.
 - ___Trees and grass grow in the country.
 - ___More people die in the city.
 - ___The wind is stronger in the country.

21. Why do railroads use electric engines in some cities?
 ___ They run faster than steam engines.
 ___ They look better than steam engines.
 ___ To avoid making the city smoky.
 ___ In order to make less noise.
22. What is the main purpose of lightning rods?
 ___ To decorate the roof of the house.
 ___ To make the lightning strike somewhere else.
 ___ To show which way the wind blows.
 ___ To remove the electricity from the air.
23. What is the safest altitude and speed for flying in an airplane?
 ___ Low and slowly.
 ___ Low and rapidly.
 ___ High and rapidly.
 ___ High and slowly.
24. What is the chief purpose of newspaper headlines?
 ___ To make the paper attractive.
 ___ To show what actually happened.
 ___ To help one decide where to read.
 ___ To guide public opinion wisely.
- Total number of correct responses.....

Directions for Scoring the Test

The score in this test is the number of questions correctly answered.
 A scoring key is given on pages 318 to 319.

Scores may be interpreted roughly as follows:

- Scores from 0 to 3 indicate Inferior Ability
 Scores from 4 to 8 indicate Low Average Ability
 Scores from 9 to 14 indicate Average Ability
 Scores from 15 to 19 indicate High Average Ability
 Scores from 20 to 24 indicate Superior Ability

Scoring Keys for Mentimeter Tests

Reading Vocabulary (Mentimeter No. 19):

- | | | |
|-------------------|-------------|-------------|
| 1. BODY or TOOL | 12. COLOUR | 23. COLOUR |
| 2. ANIMAL | 13. FISH | 24. BIRD |
| 3. CLOTHES | 14. WAR | 25. FISH |
| 4. COLOUR | 15. TIME | 26. TOOL |
| 5. BIRD | 16. WAR | 27. TIME |
| 6. CLOTHES | 17. ANIMAL | 28. ANIMAL |
| 7. ANIMAL or BODY | 18. FISH | 29. COLOUR |
| 8. TOOL or FISH | 19. TIME | 30. WAR |
| 9. BODY | 20. CLOTHES | 31. TIME |
| 10. TOOL | 21. WAR | 32. CLOTHES |
| 11. BIRD | 22. BODY | 33. BODY |

34. BIRD
35. FISH
36. BODY

37. WAR
38. TOOL

39. ANIMAL
40. BIRD

Analogies or Mixed Relations (Mentimeter No. 24):

No attempt is made here to give an exhaustive list of the correct solutions. The words which appear below are standard. Anything as good as this standard list should be accepted while anything inferior to the printed solutions should not be given credit.

- | | |
|---------------------------------|-------------------------------|
| 1. Dogs | 16. Floor |
| 2. Far, distant | 17. Bird, birds, fowl |
| 3. Foot | 18. Chauffeur |
| 4. Cat's | 19. Was, were, been |
| 5. Hot, warm, heat | 20. School, shoal |
| 6. Swims, swim | 21. Night |
| 7. Hen | 22. Risen |
| 8. Drink | 23. Drake |
| 9. School, classroom | 24. Sheep, animal, beast |
| 10. Her | 25. Women's |
| 11. Law | 26. Give, donate, buy, return |
| 12. Colt, foal | 27. Aviatrixes |
| 13. Bought | 28. Criterion |
| 14. Painting, picture, portrait | 29. Joneses' |
| 15. Sheep, ram | 30. Esoteric |

Arithmetic Reasoning (Mentimeter No. 28):

In giving the correct answers below each figure has attached to it the word indicating the commodity concerned. No answer should be considered incorrect, however, because it omits the words "dollars," "lemons" or "men."

- | | |
|---------------|-----------------|
| 1. 8 men | 8. 3,373 quarts |
| 2. 12 dollars | 9. 500 pounds |
| 3. 9 nickels | 10. 51 cents |
| 4. 5 benches | 11. 750 people |
| 5. 8 cents | 12. 22 tons |
| 6. 23 cents | 13. \$4.80 |
| 7. 16 lemons | 14. \$1,575.00 |

Practical Judgment Test (Mentimeter No. 29):

1. Get a drink of water.
2. It tastes good.
3. Wear a raincoat.
4. Ring the alarm and try to put out the fire.
5. Ask the person's pardon.
6. The frost has killed them.

7. To protect them from the colder weather.
8. At the beach of a summer resort.
9. Try to make time by hurrying.
10. To display the flag and inspire patriotism.
11. Water always becomes solid at low temperatures.
12. Nail a piece of tin over it.
13. It is an easily digested and wholesome food.
14. An incandescent electric bulb.
15. To create a demand for special brands.
16. So that their strength may be utilized.
17. The low temperature keeps it fresh.
18. One could jump from one-story buildings.
19. Discover and remove the cause of its crying.
20. It has fewer impurities in it.
21. To avoid making the city smoky.
22. To remove the electricity from the air.
23. High and rapidly.
24. To help one decide where to read.

CHARACTERISTICS OF INTROVERSION*

Directions: Place a check mark (✓) before each statement below which describes your usual behavior. Consider your reactions over several months. Count the checks for your score and determine the per cent of the total number which you checked by dividing your score by 31.

- ____ 1. Limits his acquaintances to a select few.
- ____ 2. Feels hurt readily; apparently sensitive about remarks or actions which have reference to himself.
- ____ 3. Is suspicious of the motives of others.
- ____ 4. Worries over possible misfortunes.
- ____ 5. Indulges in self-pity when things go wrong.
- ____ 6. Gets rattled easily; loses his head in excitement or moments of stress.
- ____ 7. Keeps in the background on social occasions; avoids leadership at social affairs and entertainments.
- ____ 8. Is critical of others.
- ____ 9. Prefers to work alone rather than with people; prefers to work at tasks that do not bring him into contact with people.
- ____ 10. Has ups and downs in mood without apparent cause.
- ____ 11. Is meticulous; is extremely neat about his dress and painstaking about his personal property.
- ____ 12. Blushes frequently; is self-conscious.
- ____ 13. Pays serious attention to rumors.

* From a list by Dr. E. Heidbreder in "Measuring Introversion and Extroversion," *Journal of Abnormal and Social Psychology*, 21: 120-134, July-September, 1926.

- ____14. Expresses himself better in writing than in speech.
- ____15. Resists discipline and orders.
- ____16. Limits his acquaintances to members of his own sex.
- ____17. Avoids all occasions for talking before crowds. Finds it difficult to express himself.
- ____18. Is a radical; wants to change the world instead of adjusting himself to it.
- ____19. Is outspoken; says what he considers the truth regardless of how others may take it.
- ____20. Introspects; turns his attention inward toward himself.
- ____21. Prefers participation in competitive intellectual amusements to athletic games.
- ____22. Is strongly motivated by praise.
- ____23. Daydreams.
- ____24. Is selfish.
- ____25. Dislikes and avoids any process of selling or persuading any one to adopt a certain point of view (except in the religious field).
- ____26. Is sentimental.
- ____27. Prefers to read a thing rather than experience it.
- ____28. Is extremely careful about the friends he makes; must know a person pretty thoroughly before he calls him a friend.
- ____29. Shrinks from actions which demand initiative and nerve.
- ____30. Prefers to work things out on his own hook; hesitates to accept or give aid.
- ____31. Talks to himself.
- ____Total score
- ____Per cent checked

EVIDENCES OF AN INFERIORITY ATTITUDE*

Directions: Place a check (✓) before each statement below which describes your usual behavior. Consider your reactions over several months. Count the checks for your score and determine the per cent of the total number which you checked by dividing your score by 20.

- ____1. Is self-conscious.
- ____2. Pays serious attention to little things that may have reference to himself.
- ____3. Is sensitive to blame.
- ____4. Worries about little things he has said or done—slips, breaks, social blunders, etc.
- ____5. Is given to self-criticism.
- ____6. Is sensitive to praise.
- ____7. Daydreams.
- ____8. His feelings are easily hurt; is touchy, oversensitive.
- ____9. Has a secret ideal or ambition.
- ____10. Worries about his ability to succeed in fields where he most wishes to succeed.

* From a list by Dr. E. Heidebreder, in "The Normal Inferiority Complex," *Journal of Abnormal and Social Psychology*, 22: 243-258, October-December, 1927.

- 11 Is sometimes oppressed in the midst of an enterprise by a sense of unfitness to carry it through.
- 12 Analyzes his own motives, feelings, likes, dislikes, etc.
- 13 Often feels that something he has said or done has hurt someone's feelings or made enemies.
- 14 Compares his abilities and achievements with those of other people.
- 15 Is dissatisfied with his progress and achievements up to the present time.
- 16. Is easily embarrassed.
- 17. Is given to remorse and regrets.
- 18. Lives in the future to a considerable extent.
- 19. Is embarrassed by the memory of scenes and blunders long after they have happened.
- 20. Hesitates to put his abilities to the test.
- Total score
- Per cent checked

PERSONAL RATING BLANK*

				8	10
How conservative or radical are you in your views	Old order was preferable and should be restored	Conditions are better as they are and should not be changed	Some things should change; others should not	Continuous change should be expected	Old order should be overthrown and new substituted

				8	10
How fair-minded or intolerant are you?	Very intolerant of others' views if different from own	Somewhat biased or prejudiced about most matters	Tolerant of some views; intolerant of others	Fairly unbiased or prejudiced about most matters	Very tolerant of others' opinions whether they agree or disagree with own

				8	10
Do you feel superior or inferior to most other people?	Feel superior to most other people with whom I associate	Feel somewhat superior to many people with whom I associate	Feel the equal of most people I associate with. Think a few are superior and inferior to me	Feel somewhat inferior to many people I associate with	Feel inferior to most other people with whom I associate

* Items 4 to 8 inclusive are adapted and reprinted by permission from a Personal Rating Blank prepared by a Committee of the American Council of Education. The other items of the rating blank were formulated in collaboration with Dr. Harold C. Hand, Stanford University.

ALAN JUNG

	1	2	3	4	5	6	7	8	9	10
4. How are others affected by your appearance and manner?	Avoided by others		Tolerated by others		Liked by others		Well-liked by others		Sought by others	

	1	2	3	4	5	6	7	8	9	10
5. Do you need constant prodding? Or do you go ahead with your work without being told?	Need much prodding in doing ordinary assignments		Need occasional prodding		Do ordinary assignments of own accord		Complete suggested supplementary work		Seek and a for additional tasks	

10

6. Do you get others to do what you wish?	Probably unable to lead fellows	Let others take lead	Sometimes lead in minor affairs	Sometimes lead in important affairs	Display marked ability to lead fellows; make things go
-------------------------------------------	---------------------------------	----------------------	---------------------------------	-------------------------------------	--------------------------------------------------------

7. How do you control your emotions?	Too easily moved to anger or fits of depression, etc.	Tend to be over emotional
--------------------------------------	-------------------------------------------------------	---------------------------

5	6	7	8	9	10
Usually well-balanced	Well-balanced			Unusual balance of responsiveness and control	

Unresponsive, Tend to be
apathetic unresponsive

	1	2	3	4	5	6	7	8	9	10
8. Have you a program with definite purposes in terms of which you distribute your time and energy?		Aimless trifler	Aim just to "get by"		Have vaguely formed objectives		Direct energies effectively with fairly definite program		Engrossed in realizing well-formulated objectives	

SCORING KEY FOR SELF-DEPENDENCE TEST, PAGE 31

Best responses are:

1. Rarely
2. Usually
3. Rarely
4. Usually
5. Usually
6. Rarely
7. Usually
8. Rarely
9. Rarely
10. Rarely
11. Rarely
12. Sometimes or Rarely
13. Sometimes or Rarely
14. Usually

SCORING KEY FOR PERSONAL INVENTORY, CHAP. XIII, PAGES 159-161

- | | |
|-------------|-------------|
| 1. Usually | 19. Usually |
| 2. Rarely | 20. Rarely |
| 3. Rarely | 21. Rarely |
| 4. Rarely | 22. Rarely |
| 5. Rarely | 23. Usually |
| 6. Usually | 24. Usually |
| 7. Rarely | 25. Usually |
| 8. Usually | 26. Usually |
| 9. Usually | 27. Usually |
| 10. Rarely | 28. Usually |
| 11. Rarely | 29. Usually |
| 12. Usually | 30. Rarely |
| 13. Usually | 31. Rarely |
| 14. Usually | 32. Rarely |
| 15. Usually | 33. Rarely |
| 16. Usually | 34. Rarely |
| 17. Usually | 35. Usually |
| 18. Rarely | 36. Usually |

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Science and the Human Temperament

While there he propounded his theory of wave mechanics and published what is known as the Schrödinger wave equation.

"This equation", says Max Planck, "has provided the basis of modern Quantum-mechanics, in which it seems to play the same part as do the equations established by Newton, Lagrange and Hamilton, in classical mechanics."¹ In 1926 Max Planck resigned the chair of theoretical physics in the University of Berlin but remained Bestaendiger Sekretar of the Prussian Academy of Science. Schrödinger was called from Zurich to succeed Planck at the Berlin University.

He told his own story during the course of an address delivered before the Prussian Academy of Science on the occasion of his inauguration to membership of that body (4th July, 1929). He said:

"In expressing my sincere appreciation of the distinction which you have conferred on me to-day by electing me a member of the Academy of Science I must say that it is a particular pleasure for me to see at our head, still in the full vigour of his powers, the master whom we all revere and whose successor in the professorial chair I have the honour to be. I may presume that his opinion decidedly influenced you in electing me.

"Allow me, first of all, to discharge as briefly as possible the unpleasant task which an academic inaugural address involves, namely, that of speaking of myself.

¹ *The Universe in the Light of Modern Physics*, page 29. (London, 1931, George Allen and Unwin, Ltd.)

Biographical Introduction

"The old Vienna Institute, which had just mourned the tragic loss of Ludwig Boltzmann, the building where Fritz Hasenoechl and Franz Exner carried on their work and where I saw many others of Boltzmann's students coming and going, gave me a direct insight into the ideas which had been formulated by that great mind. His line of thought may be called my first love in science. No other has ever thus enraptured me or will ever do so again. Only very slowly did I approach the modern atomic theory. Its inherent contradictions sounded harsh and crude, when compared with the pure and inexorably clear development of Boltzmann's reasoning. I even, as it were, fled from it for a while and, inspired by Franz Exner and K. W. F. Kohlrausch, I took refuge in the sphere of colour theory. As to atomic theory, I tested and rejected many an attempt (partly of my own, partly of others) to restore at least clarity of thought even at the expense of a most revolutionary change. The first to bring a certain relief was de Broglie's idea of electron waves, which I developed into the theory of wave mechanics. But we are still pretty far from really grasping the new way of comprehending nature which has been initiated on the one hand by wave mechanics and, on the other, by Heisenberg's Quantum mechanics."

He went on to say that the aim of physics must be to discover the fewest possible simple and fundamental laws to which each single phenomenon in the mass of complex empirical phenomena may be referred. Classical mechanics followed this aim and achieved magnificent results. This led to the idea of